THE LANCET.

A Journal of British and Foreign Medicine, Surgery, Obstetrics, Physiology, Chemistry, Pharmacology, Public Health, and News.

TELEGRAPHIC ADDRESS—LANCET, LONDON TELEPHONE NUMBER—5356 GERRARD

No. XVII. of Vol. I., 1910.
No. 4521. Vol. CLXXVIII. LONDON, SATURDAY, APRIL 23, 1910. Pp. 160—Price 6d.

ROYAL SOCIETY OF MEDICINE.
SECTIONS: Clinical, Dermatological, Electro-therapeutical, Epidemiological, Laryngological, Medical, Neurological, Obstetrical and Gynæcological, Odontological, Otological, Pathological, Surgical, Therapeutical and Pharmacological, Anæsthetics, Disease in Children. DIARY of MEETINGS on page 1182.

"ROSE and CARLESS' MANUAL of Surgery has no equal."—HOSPITAL.
"It is a trustworthy guide for the student and the practitioner."—LANCET.
"It is by far the best text-book."—MEDICAL CHRONICLE.
Seventh Edition. Pp. xiv.+1376. With 16 Plates and 554 Illustrations. Price 21s. net.
London: Baillière, Tindall & Cox.

Published on January 1st, 1910. Price 7s. 6d. net.
LAKE'S DISEASES of the EAR. Third Edition.
London: Baillière, Tindall & Cox, 8, Henrietta-street, Covent Garden.

Pp. xii.+168, with 91 Illustrations. Price 6s. net.
HANDBOOK of INTESTINAL SURGERY.
By L. A. BIDWELL, F.R.C.S.Eng., Surgeon, West London Hospital; Lecturer on Intestinal Surgery and Dean, Post-Graduate College.
London: Baillière, Tindall & Cox, 8, Henrietta-street, Covent Garden.

By FAULDER WHITE, F.R.C.S.
INFECTED EARS (Intrameatal Treatment). 5s.
"We strongly commend this small work."—THE MEDICAL TIMES.
"A line of treatment which is attended with so little risk and affords such satisfactory results is very welcome."—MIDLAND MEDICAL JOURNAL.
Celtic Press, 43, Chancery-lane.

THE FUTURE OF THE HOSPITALS.
Medical Relief for all according to Means.
Co-operation between PATIENTS, HOSPITALS, and the STATE.
By Sir HENRY BURDETT, K.C.B., K.C.V.O. Price 2d.
The Scientific Press, Ltd., 28 & 29, Southampton St., Strand, London, W.C. At all Booksellers.

By OSCAR JENNINGS, M.D.(Paris), M.R.C.S.Eng.
THE MORPHIA HABIT.
"This notable work should be studied by all those who are responsible for the management of those who are the subjects of drug addiction."—BRITISH JOURNAL OF INEBRIETY. Baillière, Tindall & Cox.

DAVIDSON'S BULLETIN OF NOVELTIES.
The Illumination of Surgical Lamps without house currents, accumulators or batteries.
F. Davidson & Co., 29, Great Portland-street, London, W.

THIRD EDITION. Entirely Rewritten. Demy 8vo, price 5s. net; by post 5s. 4d.
INDIGESTION: The Diagnosis and TREATMENT of the FUNCTIONAL DERANGEMENTS of the STOMACH.
By GEORGE HERSCHELL, M.D.Lond.
"One of the best guides in the English language, and may, we think, be fairly regarded as a standard text-book. ..... We can conceive of no more valuable book to place in the hands of a medical man commencing practice."—MEDICAL PRESS AND CIRCULAR.
London: H. J. Glaisher, 55 & 57, Wigmore-street, W.

BY E. HURRY FENWICK, F.R.C.S., Surgeon to, and a Lecturer on Clinical Surgery at, the London Hospital.
With 80 Plates and 15 Text-Figures. 10s. 6d. net.
THE VALUE of RADIOGRAPHY in the DIAGNOSIS & TREATMENT of URINARY STONE. A Study in Clinical and Operative Surgery.
A HANDBOOK of CLINICAL CYSTOSCOPY. With 31 Plates and 144 Engravings in the Text. 18s. net.
URETERIC MEATOSCOPY in the DIAGNOSIS and TREATMENT of OBSCURE DISEASES of the KIDNEY. With 14 Plates and 45 Illustrations in the Text. 6s. 6d.
OPERATIVE and INOPERATIVE TUMOURS of the URINARY BLADDER. With 39 Illustrations. 5s.
ULCERATION of the BLADDER, SIMPLE, TUBERCULOUS, and MALIGNANT. With Illustrations. 5s.
London: J. & A. Churchill, 7, Great Marlborough-street.

PRACTICAL PATHOLOGY.
By G. SIMS WOODHEAD, Professor of Pathology, Cambridge.
NEW FOURTH EDITION. Just Published. With over 240 Microscopical Drawings in Colour in the Text.
"A book that has held the first place in pathology since 1884."
Henry Frowde, Oxford University Press and Hodder & Stoughton, 20, Warwick Square, London, E.C.

By THOS. D. SAVILL, M.D. Now Ready.
SYSTEM OF CLINICAL MEDICINE. (2nd Edn.) Arnold, 41, Maddox-street.
LECTURES ON NEURASTHENIA. (4th Edn.)
LECTURES ON HYSTERIA. Glaisher, Wigmore-street.

BY H. BELLAMY GARDNER, M.R.C.S.Eng.
SURGICAL ANÆSTHESIA.
"It is easy to read. ..... A capital exposition of the principles and practice of anæsthesia."—THE LANCET.
Pp. 240. Messrs. Baillière, Tindall & Cox. Price 5s.

SOME OF
SAUNDERS' TEXT-BOOKS
FOR STUDENTS.
See Saunders' Advertisement on Page 5.

JUST PUBLISHED.
RHINOLOGY: a Text Book of Diseases of the NOSE and the NASAL ACCESSORY SINUSES.
By PATRICK WATSON WILLIAMS, M.D. London.
With 3 Coloured Plates and 44 Black and White Plates (of which 26 are stereoscopic) and 140 Illustrations in the Text.
8vo, 12s. 6d. net. With Stereoscope, 15s. net.
Longmans, Green & Co., 39, Paternoster-row, London, E.C.

BY C. MANSELL MOULLIN, M.D. Oxon., F.R.C.S., Consulting Surgeon to the London Hospital; late Examiner in Surgery at the Universities of Oxford and Cambridge.
ENLARGEMENT of the PROSTATE. Third Edition. Price 6s.
INFLAMMATION of the BLADDER and URINARY FEVER. Price 5s.
London: H. K. Lewis, 136, Gower-street.
WHEN to OPERATE in INFLAMMATION of the APPENDIX. Third Edition now ready. Price 2s. 6d.
THE SURGICAL TREATMENT OF GASTRIC ULCER. Price 2s. 6d.
London: J. Bale & Danielsson, Ltd., 83-89, Gt. Titchfield-street.

SECOND Edition, with Illustrations, royal 8vo, 10s. 6d.
TREATMENT of LATERAL CURVATURE of the SPINE. By BERNARD ROTH, F.R.C.S.
"In speaking of the first edition we expressed the hope that this book would do something to check the unscientific and often disastrous treatment of lateral curvature of the spine by spinal supports and prolonged rest, and this new edition is even better calculated to show the good results which may be obtained in lateral curvature by posture and exercise."—THE LANCET.
"There can be no doubt that good work has been done by the author by his strong advocacy of the more rational method of treating lateral curvature of the spine by exercises."—BRITISH MEDICAL JOURNAL.
London: H. K. Lewis, 136, Gower-street, W.C.

SECOND EDITION.
MANUAL OF MILITARY OPHTHALMOLOGY.
By LIEUT.-COLONEL YARR, R.A.M.C.
JUST ISSUED. Cloth Gilt, 6s.
"This manual has reached a second edition and thereby demonstrated its utility. ..... Excellently suited for its purpose. ..... A useful and trustworthy guide for members of the service who, without special training, are called upon to deal with eye diseases."
—*The Lancet, March 5th, 1910.*
"The appearance of this little book in a second edition is to be welcomed. ..... The author's name is a guarantee of soundness of opinion. ..... All chapters reach a high level in expression and descriptive particulars."
—*Journal of the Royal Army Medical Corps, February, 1910.*
Cassell & Co., Ltd., Ludgate Hill, London, E.C.

To H.M. the King

Cyllin Pastilles

The only pastille offered to the medical profession with a guaranteed bactericidal efficiency.

The Rideal-Walker co-efficient for B. diphtheriae is 0·3—*i.e.*, 10 grains of the pastille equal 3 grains pure phenol.

By reason of its complete freedom from toxicity and its high bactericidal efficiency, it is indicated in the treatment of all diseases which make their entrance through the mouth, and as a prophylactic in time of epidemic.

Its action *destroys* the organisms—it does not merely inhibit their growth, as in the case of certain preparations of formaldehyde.

Price per 2-oz. tin 1/-
From all chemists or direct from the manufacturers,

Jeyes' Sanitary Compounds, Co., Ltd., 64 Cannon Street, London, E.C.

BOLLINGER'S CHAMPAGNE

Extra Quality. Very Dry.

BY SPECIAL APPOINTMENT TO H.M. THE KING.

RONCEGNO

Natural ARSENICAL Iron Water.
The Richest Known of all Arsenious Springs.

Highly recommended by the Medical Profession as most efficacious in the treatment of **Anæmia, Ailments peculiar to Females, Skin Affections, Nervousness, Rachitis, Chronic Rheumatism, and Malaria. A Powerful Tonic in General Convalescence.**

THE LANCET, Feb. 20th, 1909, says:—"The water of Roncegno is distinguished from the waters of its class by containing a remarkable quantity of arsenic. We have not examined a natural mineral water, at all events, containing so much arsenic."

SAMPLES sent gratis and carriage paid to MEMBERS of the MEDICAL PROFESSION on application to

RICHARD DAVIS, 20, Maddox Street, Regent Street (SOLE AGENT).

RONCEGNO, CLIMATIC HEALTH RESORT,

Austrian Tyrol (6 hours by rail from Innsbrück, 4 from Venice). ***MAY to OCTOBER.***
Ideal position, amidst grand Firs and Pine Woods. Equable, mild, and bracing Climate. Altitude, 2000 ft.

MODERN BATHING ESTABLISHMENT annexed to the Grand Hotels.

THE LANCET.

No. 4521. Vol. CLXXVIII. LONDON, SATURDAY, APRIL 23, 1910. Pp. 160.

CONTENTS.

The whole of the literary matter in THE LANCET is copyright.

HUNTERIAN ORATION (Abstract of the) on Some Principles in the Treatment of Chronic Disease. Delivered before the Hunterian Society on Feb. 9th, 1910, by R. FORTESCUE FOX, M.D.Lond., M.R.C.P. Lond., F.R. Met. Soc., Consulting Physician, Mineral Water Hospital, Strathpeffer 1115

ORIGINAL ARTICLES.

The Diagnostic Value of the Chemical Analysis of the Gastric Contents after a Test Meal. By W. H. WILLCOX, M.D., B.Sc.Lond., M.R.C.P. Lond., Physician to Out-patients, St. Mary's Hospital, London 1119

On Acute Arthritis of Doubtful Origin. By G. BURNSIDE BUCHANAN, M.B., C.M. Glasg., F.R.F.P.S. Glasg., Assistant Surgeon to the Western Infirmary, and to the Cancer Hospital, Glasgow.—*(Illustrated)* 1124

A New Method of Treating Acute Phthisis by the Alternate Use of Human and Bovine Tuberculin. By H. WARREN CROWE, M.D.Oxon. *(Illustrated)* 1130

The Treatment of Graves's Disease with the Milk of Thyroidless Goats. By WALTER EDMUNDS, M.A., M.B., M.C.Cantab., F.R.C.S. Eng., Surgeon to the Prince of Wales's General Hospital, Tottenham 1135

A Case of "Typhoid Spine." By E. ROCK CARLING, M.B., B.S. Lond., F.R.C.S. Eng., Surgeon, Seamen's Hospital, Greenwich; Assistant Surgeon, Westminster Hospital, &c.; and L. R. KING, M.R.C.S. Eng., L.R.C.P. Lond. 1136

Note on the Minute Structure of the Thyroid Gland. By D. CHALMERS WATSON, M.D. Edin., F.R.C.P. Edin., Assistant Physician, Royal Infirmary, Edinburgh. — *(Illustrated)* 1137

Rabelais the Physician. By Sir HENRY MORRIS, Bart., F.R.C.S., M.A. Lond. 1156

Motoring Notes. By C. T. W. HIRSCH, M.R.C.S. Eng., L.R.C.P. Lond. 1157

CLINICAL NOTES:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

Unusual Ending in a Case of Arsenic Poisoning. By W. J. WEBB ANDERSON, M.D. Leeds, Ch.B.Vict., Fatshan Hospital, Wesleyan Mission, Canton 1138

Note on an Interesting Case of Cerebral Tumour. By P. CRAWFORD CONRAN, M.R.C.S. Eng., L.R.C.P. Lond., House Physician to the Middlesex Hospital 1139

MEDICAL SOCIETIES.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY: Exhibition of Cases and Specimens 1139

LIVERPOOL MEDICAL INSTITUTION: Exhibition of Cases and Specimens 1140

LEEDS & WEST RIDING MEDICO-CHIRURGICAL SOCIETY: Exhibition of Cases and Specimens 1141

SOCIETY OF MEDICAL OFFICERS OF HEALTH: The Majority Report of the Royal Commission on the Poor-laws and the Relief of Distress 1141

NORTH OF ENGLAND OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY: Cæsarean Section for a Post-rectal Cyst.—Red Degeneration of Fibroids 1142

BRIGHTON & SUSSEX MEDICO-CHIRURGICAL SOCIETY: Some Observations on Infective Arthritis 1142

NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY: Diabetes Insipidus.—Intestinal Obstruction 1142

PATHOLOGICAL SOCIETY OF MANCHESTER: Chronic Results of Septic and Gonorrhœal Infection of the Female Pelvic Organs ... 1142

REVIEWS AND NOTICES OF BOOKS.

Male Diseases in General Practice: An Introduction to Andrology. By Edred M. Corner, M.C. Cantab., F.R.C.S. Eng. 1143

The Melanesians of British New Guinea. By C. G. Seligmann, M.D. Lond. 1143

Industrial Diseases and Accidents. By W. J. Greer, F.R.C.S. Irel. 1144

Atlas der Menschlichen Blutzellen. Von Dr. Artur Pappenheim. Zweite Lieferung 1144

Science, Matter, and Immortality. By Ronald Campbell Macfie, M.A., M.B., C.M. ... 1145

Pulmonary Tuberculosis and Sanatorium Treatment. By D. J. A. Chowry-Muthu, M.D. Brux. 1145

Sleep and Sleeplessness. By Haydn Brown 1145

Neighbours and Friends. By M. Loane 1145

The Fifteenth Bulletin of the Sleeping Sickness Bureau ... 1146

The Medical Chronicle 1146

Edinburgh Medical Journal ... 1146

The Bristol Medico-Chirurgical Journal 1146

The Birmingham Medical Review 1146

West London Medical Journal.. 1146

NEW INVENTIONS.

Improved Rectal Speculum.—*(Illustrated)* 1147

A New Syringe for Delivering Accurate Volumes of Tuberculins or Vaccines.—*(Illustrated)* 1147

LEADING ARTICLES.

ANTISEPSIS AND ASEPSIS IN MIDWIFERY PRACTICE 1148

THE SURGERY OF THE LYMPHATICS 1149

A NATIONAL DENTAL SCHEME.. 1150

ANNOTATIONS.

Recent Birth-rate and Infant Mortality in the Largest English Towns 1151

Alcohol and Alpinism 1151

Jonnesco's Method of Spinal Anæsthesia 1152

The Centenary of Benedikt Stilling's Birth 1152

Idiopathic Dilatation of the Colon, or Hirschsprung's Disease 1153

The Stability of the Physiological Properties of Coliform Organisms 1153

Town Planning in Greater London 1154

The Use of Tuberculin in the Treatment of Pulmonary Tuberculosis 1154

Acute Arthritis of Doubtful Origin 1154

On Puerperal Amaurosis 1154

The Supply of Midwives in London 1155

Parotitis Complicating Acute Rheumatism 1155

LOOKING BACK.

(From THE LANCET, Saturday, April 21st, 1832.)

Disinfection by Heat 1147

PUBLIC HEALTH.

Reports of Medical Officers of Health 1161

Annual Reports of School Medical Officers 1162

VITAL STATISTICS:
Health of English Towns ... 1162
Health of Scotch Towns 1163
Health of Irish Towns 1163

SPECIAL ARTICLES.

Poor law Reform. The Scheme Proposed by the Right Hon. Charles Booth: His Views on the Care of the Sick 1158

Royal College of Surgeons of England 1159

Women Residents in General Hospitals: A Manchester Discussion 1160

The Services 1163

The Recent Epidemic of Typhoid Fever in Montreal..... 1167

Scotland: Aberdeen University General Council: The New Medical Ordinance 1168

Ireland: The Irish Medical Association; the Queen's University of Belfast (Meeting of Convocation) 1169

Wales: Cardiff Port Sanitary Authority; A Poor-law Sanatorium for Merthyr 1170

Paris: The Congress of Medical Practitioners; The Red Cross Societies 1170

Vienna: Removal of a Tumour of the Hypophysis by the Nasal Route 1172

United States of America: Important Change in Medical Education 1172

Notes from India: Plague; A School of Tropical Medicine for India 1173

CORRESPONDENCE.

The Midwives Bill and Poor-law Relief (Mr. F. E. Fremantle, Mrs. Sidney Webb).. 1164

The Common Cold: its Modern Treatment (Mr. M. S. Harford) 1165

Exercise in Education and Medicine (Dr. Wm. Bruce).. 1165

The Milk-supply and Some Suggestions for Procuring Purer Milk (Dr. D. Fenton).. 1166

Sterilisation of the Skin by the Use of an Alcoholic Solution of Iodine (Dr. Stanley Green) 1167

Amateur Printing (Mr. E. H. Blakeney) 1167

The late Dr. Savill (Dr. Harry Campbell, Mr. J. Henry Chaldecott, Dr. G. Davis) ... 1167

The Petrol Rebate 1167

The Nurse, the Pram, and the Adenoid 1181

Explosive Cough Mixture (Mr. Thomas Laffan, Mr. F. W. Gamble) 1181

The Therapeutics of Oxalic (Dr. J. C. McWalter) 1181

OBITUARY.

Frederick Wm. Jordan, M.D. Durh., L.R.C.P. Lond., M.R.C.S. Eng., B.Sc. Vict., D.P.H. 1174

Deaths of Eminent Foreign Medical Men 1174

MEDICAL NEWS.

Royal College of Surgeons in Ireland 1130

The People's Refreshment House Association, Limited.. 1138

The Emperor of Japan and the Seamen's Hospital 1146

The Factory and Workshop Act 1155

The Medical Curriculum of the University of Bristol ... 1160

Literary Intelligence 1174

Pass-lists of the University of Liverpool, the University of Glasgow, and the Queen's University, Belfast 1175

Hospital Saturday Fund..... 1176

London County Council 1176

Royal Southern Hospital, Liverpool 1176

Demonstrations of Modern Methods 1176

Reading Pathological Society.. 1176

Professor A. M. Paterson 1176

A Stockport Home for Consumptives 1176

North Devon Infirmary, Barnstaple 1177

The Metropolitan Police Surgeons' Association 1177

Donations and Bequests 1177

The Leicester Infirmary 1177

Memorial to the late Mr. Connell Whipple 1177

PARLIAMENTARY INTELLIGENCE.

Notes on Current Topics..... 1177

House of Commons 1178

Books, &c., received 1179

Appointments..... 1179

Vacancies 1180

Births, Marriages, and Deaths 1180

Notes, Short Comments, and Answers to Correspondents.. 1181

Medical Diary 1182

Acknowledgments of Communications received 1184

FOR INDEX TO ADVERTISEMENTS SEE PAGES 2 & 4.

INDEX

MEDICAL AND OTHER BOOKS AND PUBLICATIONS

COVER

PAGE

ARNOLD:—
Savill ..... Clinical Medicine i

BAILLIERE, TINDALL & COX:—
Bidwell .... Intestinal Surgery..... i
Gardner .... Surgical Anæsthesia.... i
Jennings.... The Morphia Habit i
Lake ..... Diseases of the Ear i
Rose & Carless.... Surgery i

BALE, SONS & DANIELSSON:—
Moullin .... Inflammation of the Appendix..... i
" .... Treatment of Gastric Ulcer..... i

CASSELL & CO.:—
Yarr ..... Military Ophthalmology i

CELTIC PRESS:—
White ..... Infected Ears i

CHURCHILL, J. & A.:—
Fenwick, E. H. .... Clinical Cystoscopy i
" .... Operative, &c., Tumours of the Urinary Bladder i
" .... Ulceration of Bladder.. i
" .... Diagnosis, &c., of Urinary Stone i
" .... Obscure Diseases of the Kidney i

FROWDE AND HODDER & STOUGHTON:—
Woodhead .. Practical Pathology.... i

GLAISHER:—
Herschell .. Indigestion i
Savill ..... Neurasthenia i
" ..... Lectures on Hysteria .. i

LEWIS:—
Moullin .... Enlargement of the Prostate i
" .... Inflammation of the Bladder i
Roth..... Curvature of the Spine i

PAGE

LONGMANS, GREEN & CO.:—
Williams.... Rhinology..... i

SAUNDERS COMPANY:—
Some of Saunders' Text-books for Students i

SCIENTIFIC PRESS:—
Burdett, Sir H. .... The Future of Hospitals i

MEDICAL LIBRARIES, &c.:—
Davidson & Co.—
Bulletin of Novelties i
Squire's Companion iv

ADLARD & SON:—
Wood ..... Spa Treatment 6

APPLETON & CO.:—
Butler ..... Internal Medicine 9
Holt ..... Diseases of Infancy 9
Johnson .... Surgical Diagnosis 9
Osler..... Practice of Medicine .. 9
Williams.... Obstetrics 9
Wynter .... Minor Medicine 9

BAILLIERE, TINDALL & COX:—
Andrew .... Age Incidence, &c..... 6
Buchanan .. Anatomy 6
Castellani & Chalmers.. Manual of Tropical Medicine 7
Giles ..... Gynæcological Diagnosis 6
Leedham-Green .... Gonorrhœa in the Male 6
" .... Sterilisation of Hands.. 6
Lindsay .... Diseases of the Lungs .. 6
McKay ..... Operations on the Uterus 7
McKisack .. Dictionary of Medical Diagnosis..... 6
Onodi ..... The Optic Nerve 7
Thorne..... Nauheim Treatment of Heart Disease 6
Vincent .... Nutrition of the Infant 6

PAGE

CASSELL & CO.:—
Morris, Sir M. .... Diseases of the Skin .. 8

CHURCHILL, J. & A.:—
Thorne, Bezly .... Schott Nauheim Treatment, &c., of the Heart 8

FROWDE AND HODDER & STOUGHTON:—
Hay ..... Heart Diseases 5
Hertz ..... Constipation 5
Lockwood .. Aseptic Surgery..... 6
" .. Clinical Lectures and Addresses in Surgery.. 8
Mayou ..... Diseases of the Eye 5
Sutherland.. System of Diet..... 5
Thomson & Miles..... Manual of Surgery 5

LEWIS:—
Buxton..... Anæsthetics 40
Coleman .... Extraction of Teeth.... 40
Gordon..... Rain-bearing Winds on the Prevalence of Phthisis 40
Kenwood.... Public Health Laboratory Work 40
Lewers..... Diseases of Women 8
" ..... Cancer of the Uterus .. 8
Murray .... Rough Notes on Remedies..... 40
Parkes & Kenwood.. Hygiene & Public Health 40
Powell, Sir R. D..... Diseases and Disorders of the Heart 40
Rawling .... Landmarks, &c..... 40
Stitt ..... Practical Bacteriology 40
Swanzy & Werner.... Diseases of the Eye.... 40
Tilley ..... Diseases of the Nose, &c. 40
White ..... Catarrhal Fevers 40
Woakes .... Deafness, &c. 40

LONGMANS, GREEN & CO.:—
Bennett, Sir W. .... Abdominal Hernia 10
" .... Varix 10
" .... Varicocele..... 10
" .... Varicose Veins 10

PAGE

MACMILLAN & CO.:—
Lockwood .. Appendicitis..... 8

MEDICAL PUBLISHING CO.:—
Bennett, Sir W. .... Appendicitis..... 10

REBMAN:—
Beard ..... Ophthalmic Surgery .. 11
Greene ..... Medical Diagnosis..... 11
Moure ..... Disease of Pharynx, &c. 11
Sluss ..... Emergency Surgery.... 11

SAUNDERS COMPANY:—
Anders..... Practice of Medicine .. 5
Ashton ..... Practice of Gynecology 6
Da Costa .... Modern Surgery 5
Eyre ..... Bacteriologic Technique 5
Hirst ..... Text-book of Obstetrics 5
Howell..... Text-book of Physiology 5
Jordan ..... General Bacteriology .. 5

SMITH, ELDER & CO.:—
Leftwich.... Index of Symptoms 11
Tirard ..... Albuminuria, &c..... 10

SWAN SONNENSCHEIN & CO.:—
Clay ..... Nature of Cancer 8
Herzwig .... The Cell 8
Kaye..... limate of Strathpeffer 8
Mercier .... Text-book of Insanity.. 8
Remedial Gymnastics 8
Thomson.... Treatment of Plaque..... 8
Wade ..... Study of Organic Chemistry 8

THE LANCET:—
Territorial Medical Service 10

WRIGHT & SONS (BRISTOL):—
Index of Treatment 10
Medical Annual, 1910 10

MEDICAL LIBRARIES, &c.:—
Baker—Book Bargains..... 11
Beasley & Ketley—Stammering 8
Behnke—Stammering 8
Hygienic Handbook 8
Matthews Bros.—
Wood: Application of Trusses.... 8

OFFICIAL AND GENERAL ANNOUNCEMENTS

COVER

HEALTH RESORTS, BATHS, &c.:—
Roncegno ii

OFFICIAL NOTICES:—
Royal Society of Medicine..... i

APPOINTMENTS VACANT:—
Bridgwater Hospital..... 77
Bristol General Hospital 76
Bristol Royal Hos. for Sick Children 75
Bury Infirmary 76
Central London Throat and Ear Hos. 76
City of London Hospital for Diseases of the Chest 76
County of London 77
Denbighshire Infirmary 77
Deptford Medical Mission 77
Devonshire Hospital, Buxton 77
Driffield Union..... 76
Elham Union 76
Evelina Hospital for Sick Children .. 75
Hospital for Epilepsy 77
Kent and Canterbury Hospital..... 75
Lancashire Education Committee 76
Leeds General Infirmary..... 76
Leicester Infirmary..... 75, 76
Leyton, &c., Children's, &c., Hospital 77
London Hospital, Whitechapel 77
Manchester Hospital for Consumption 76
Medical Graduates' College 77
Mount Vernon Hospital for Consumption 75
Newcastle-on-Tyne Dispensary 76
Nobles Isle of Man General Hospital and Dispensary 75
North Staffordshire Infirmary, &c..... 77
No. 474, L.O., Strand..... 77
Oldham General Infirmary 75
Queen Charlotte's Lying-in Hospital 75
Royal Albert Hospital, Devonport .. 75
Royal Infirmary, Hull..... 76
Royal National Hos. for Consumption 76
Royal National Orthopædic Hospital 77
Royal Naval Medical Service 74
Royal Surrey County Hos., Guildford 76
Royal Westminster Ophthalmic Hos. 76
Rutland County Council..... 75
St. Bartholomew's Hospital 76
St. George's Union, London 77
St. Marylebone General Dispensary .. 77
Sheffield Royal Hospital 74
Swansea General and Eye Hospital .. 77
Taunton and Somerset Hospital 77
Victoria Hos. for Children, Chelsea .. 75
West Herts Hospital, Hemel Hempstead 74
Wolverhampton and Staffordshire General Hospital 76
York Dispensary..... 75
Zenana Bible and Medical Mission.... 75

ASSISTANCIES, MEDICAL 63

ASYLUMS, HOMES, &c.:—
Applegarth Sanatorium, Northallerton 67
Ashbrook Hall, St. Leonards-on-Sea.. 67
Ashwood House, Kingswinford 68
Barnsley Hall, Bromsgrove 69
Barnwood House Hospital 69
Bishopstone House, Bedford 64
Brunton House, Lancaster 67
Buntingford House Retreat, Buntingford 70
Camberwell House, Peckham-road.... 68
Cheadle Royal 68
Clarence Lodge, Clapham-park..... 68
Coppice, The, Nottingham 69
Court Hall, Kenton 69
Crooksbury Sanatorium, Surrey 71
Dalrymple House, Rickmansworth .. 67
David Lewis Colony, Alderley Edge .. 67
Ghyll Retreat, Cockermouth 71
Grove House, Church Stretton 69
Grove, The, Catton, Norwich 69
Haydn Brown, Caterham Valley..... 74
Haslemere Nursing Home 74
Haydock Lodge, Newton-le-Willows.. 70
Heigham Hall, Norwich 68
Home for Epileptics, Maghull 74
Home Sanatorium, West Southbourne 72
Hon. Sec., Chancery-lane 74
Invernith Lodge Retreat, Colinsburgh 70
Kingsdown House, Box 68
Lady Supt., Clapham Park 74
Lady Superintendent, Streatham 74
Leigh House, Warwick..... 67
London Fever Hospital, Islington 67
London Open-Air Sanatorium, Wokingham 72
Mailing Place, Kent 69
Melbourne House, Leicester 67
Middelburg Sanatorium, Transvaal .. 73
Middleton Hall, Co. Durham..... 68
Moat House, Tamworth 69
Newlands House, Tooting 68
Newmains Retreat, Lanarkshire 70
Nordrach-on-Dee, Llanchory 71
Nordrach-upon-Mendip Sanatorium .. 71
Northlands Retreat, Wandsworth 67
Northwoods House, Winterbourne.... 70
Norwood Sanatorium 70
No. 459, L.O., Strand..... 74
No. 576, L.O., Strand..... 74
Ness Island, Heybridge 67
Otto House, West Kensington 68
Painswick Sanatorium..... 67
Peckham House, Peckham-road 70
Plas-yn-Dinas, Merionethshire..... 71
Plympton House, South Devon 69
Portsmouth Corporation Mental Hos. 69
St. Andrew's Hospital, Northampton 69
St. Luke's Hospital, E.C. 68
Sanatorium Clavadel 75
Springfield House Private Asylum, Bedford 69
Stocker, Craven-street 74
Stretton House, Church Stretton..... 69
The Grange, Rotherham 68
The Retreat, Witham 74
The Retreat, York 68

ASYLUMS—(Continued).
Tower House, Leicester 67
Vale of Clwyd Sanatorium..... 71
Warneford Asylum, Oxford 68
Whitmead Hill Sanatorium, Farnham 67
Wonford House, Exeter 69
Wye House, Buxton 69

COMPANIONS 64

FINANCIAL, &c.:—
Birkbeck Bank..... 64
Equitable Reversionary Interest Soc. 64

HEALTH RESORTS, BATHS, &c.:—
Aberystwyth, the Biarritz of Wales .. 75
Bad Brückenau 73
Badgastein 75
Bad Nauheim 72
Bad Wildungen 72
Campbell, Manchester-square 74
Geneva Hydrotherapic Establishment 73
Harrogate 75
Leysin, Switzerland 73
Roncegno 71
Royal Ems, Germany 72
Smedley's, Matlock 73
Wiesbaden 74

HOTELS:—
White Hart Hotel, Margate 73

HOUSE & ESTATE AGENTS .. 82-83

LIFE & FIRE ASSURANCES:—
Century Insurance Co..... 65
General Life Assurance Co. 65
National Provident Institution 65
Prudential 64
Royal Exchange Assurance 65

MASSAGE:—
H. M. S., Regent's-park 65

MEDICAL ACCOUNTANTS, &c.:—
Turner 83

MEDICAL AGENTS:—
Blundell & Rigby 79
Fieldhall, Limited 79
Manchester Medical Agency 82
Manchester Medical Association 79
Medical Agency 79
Needes, Herbert 78
Needes, J. C. 82
Peacock & Hadley 79
Reynolds & Branson 78
Scholastic, Clerical, &c., Assoc. 82
Turner 84

MEDICAL SCHOOLS:—
(LONDON.)
Charing Cross Hos. Medical College.. 61
London Hospital Medical College 62
St. Bartholomew's Hos. and College .. 61
St. Mary's Hospital Medical School .. 62
University College Hospital Medical School 63

MEDICAL SCHOOLS—(Continued).
West London Post-Graduate College 62
(PROVINCIAL, &c.)
School of Medicine of the Royal Colleges, Edinburgh..... 63

NURSING INSTITUTES:—
Army and Navy Male Nurses' Co-operation 66
General Nursing Association..... 66
Hospital for Sick Children, Great Ormond-street 65
Leeds Trained Nurses' Institution.... 65
London Nurses' Association 66
Male Nurses' Co-operation 66
Mental Nurses' Co-operation..... 65
Metropolitan Temperance Association 66
National Hos. Male Nurses' Assoc..... 65
Nurses' Co-operation, Portland-place 66
Registered Nurses' Society..... 67
St. John's House 65
St. Luke's Hospital, E.C. 67
Temperance Male and Female Nurses' Co-operation 66
Temperance Male Nurses' Co-operation 66

OFFICIAL NOTICES:—
Brompton Hospital for Consumption 61
City of London Lying in Hospital.... 62
London Hospital Medical College 62, 65
London Medical Exhibition 16
London School of Clinical Medicine.. 62
Medical Graduates' College, &c. 62
North-East London Post-Graduate College 62
Oxford University 64
Plaistow Hospital 64
Queen Charlotte's Lying-in Hospital.. 62
Roy. Coll. of Surgeons, Ireland .. 64
Royal Ear Hospital, Soho 64
Royal Institute of Public Health 61
Royal London Ophthalmic Hospital.. 65
St. John's Hos. for Skin Diseases..... 65
St. Mary's Hospital Medical School .. 62
Surgical Aid Society..... 62
University of Cambridge..... 61
University of London 61, 65

PARTNERSHIPS & PRACTICES 63

RAILWAY & STEAMSHIP CO.'S:—
New Zealand Shipping Co..... 65
Orient Co.'s Cruises 65
R.M.S.P.—Tours 65
" Special Yachting Cruises .. 65
" Welsh Holidays 65

SCHOOLS, PREPARATORY, &c.:—
Wellington Court Preparatory 64

TUTORS & LECTURERS:—
Beckton 64
Carlyon College 64
Fellowship 64
Knight 64
No. 113, L.O. .. 84
No. 125, L.O. .. 64
Patterson 64
Schnelle 64
Surgeon, Glam. 64
Weymouth 62
Wilson 64

(For Index to Trade and Miscellaneous Advertisements see page 4.)

ABSTRACT OF

The Hunterian Oration

ON

SOME PRINCIPLES IN THE TREATMENT OF CHRONIC DISEASE.

Delivered before the Hunterian Society on Feb. 9th, 1910,

BY R. FORTESCUE FOX, M.D. LOND., M.R.C.P. LOND., F.R. MET. SOC.,

CONSULTING PHYSICIAN, MINERAL WATER HOSPITAL, STRATHPEFFER.

MR. PRESIDENT AND GENTLEMEN,—It has been my lot for the greater part of my professional life to be brought into contact with certain classes of chronic disorders. In their origin many streams of causation are intermingled. In their clinical history they present many forms and many phases. They vary with age and sex and inheritance. The treatment also of these conditions is equally wide and various in character. In chronic disease assistance is not unnaturally sought, not only within the borders of professional art, but from whatever source appears to hold out a prospect of relief. And it has seemed to me that it might be useful to attempt to define some at least of the principles of medical treatment, and to trace their beneficent operation in a group of chronic disorders. I make no reference to local diseases, or to the diseases of the early or evolutionary period of life. All chronic diseases—indeed, disease of every kind—may be said to begin locally, a truth that was long ago pointed out by Broussais. Our present concern is with their later or constitutional phases. Undoubtedly the same principles of treatment are applicable to early life and to local disease, but I refer now to some general maladies of the middle and later periods of life, which are—to use an expression that we owe to Dr. Hughlings Jackson—diseases, not of evolution, but of dissolution. It is now happily realised that disease is only a modification of normal action and structure. From the normal decay of living forms we may distinguish it, in that disease is premature and partial, wanting in balance, and accompanied by disturbing reactions, whilst the normal process of dissolution is general and nicely proportioned, and tranquil.

SCIENCE AND ART IN MEDICINE.

The history of medicine is strewn with the wrecks of many doctrines and many systems. One after the other they have dominated the mind of men for generations and hindered progress by a fallacious aspect of finality. What wonder, then, that when the way of scientific inquiry was fully opened there should be an aversion to the very name of system in medicine. Attention, long wasted on speculations, was then turned to observation and experiment—physical, chemical, anatomical, and physiological—and as a result of a patient study of Nature there has been since Hunter's time a marvellous accumulation of data, not only with reference to the living organism, but to its environment. Every year the energy of observation and research in medicine increases the raw material of knowledge. Data are now constantly multiplied and magnified to such an extent that a word of warning may perhaps be needed. The mere accumulation of facts and figures serves no useful purpose. A fact to be fruitful must have something added to it. Hunter and Darwin were not only observers but interpreters of nature. Men are apt to think they follow them by piling new facts together, as the ancients heaped stones over the graves of their chiefs. Burdensome multitudinous mountains of unrelated facts may even conceal the truth that really concerns us. Therefore, whilst rejecting final systems, let us also beware of the finality of facts. They are only the raw material with which the scientific imagination builds up hypotheses and goes from step to step in the ascertainment of principles. Darwin's work was as fruitful in principles as in data. He says of himself almost regretfully that his mind became "a kind of machine for grinding general laws out of large collections of facts." I would urge that this process is especially needful in the advancement of medicine. More particularly in this period, cut adrift from the doctrines of the past, may we well pause to consider the principles upon which we are working. They are in part provisional, they are far from final.

It should not be forgotten that medical treatment is an art, resting not alone upon the accepted principles of the time, but upon a much wider and more uncertain basis. Practices sometimes survive when the ideas that gave them origin have long been extinct. If the basis of art be wide, to a grotesque and exaggerated degree in popular medicine, it is also wide in professional practice. Remedies and methods are employed that rest upon a similar uncertain and ill-defined foundation. Sometimes in default of principles, and sometimes in their despite, we are content to accept the sanctions of custom and tradition, to found ourselves upon the authority of great masters, who in their turn rested upon dogmas that have withered in the light of better knowledge. Some of our most valued remedies were held to be supernatural, and come from the days of plant worship. It is stated in the Rig Veda that as Ahriman had created 10,000 diseases, so Ormuzd gave mankind the same number of healing plants.

Opium, castor oil, scilla, galbanum, scammony, tragacanth, oak galls, male fern, and elaterium are recommended to us by Theophrastus in the third century B.C., and many or all of these were probably used by Hippocrates. It is interesting to notice that stramonium and aloes, which were also used by the Greeks, were among the drugs recommended many centuries afterwards to our King Alfred by Helias, Patriarch of Jerusalem. Some valuable remedies, such as Indian hemp (b'hanga or haschish), tamarind, and asafœtida, must have been used in the East from a remote antiquity, and are mentioned in the ancient Sanskrit writings; rhubarb is described in a Chinese herbal of 2790 B.C., written by the Emperor physician of the day; the use of gamboge and camphor came from the same country; colocynth was familiar to the ancient Greeks and Romans, whilst senna, cubebs, and probably nux vomica were introduced by the Arabian physicians into Europe. For other drugs we are indebted to the more recent experience of primitive tribes. We have calumba from the forests of East Africa, kino from West Africa, buchu from the Hottentots at the Cape of Good Hope, lobelia and podophyllum from the aborigines of North America, ipecacuanha and pareira brava from Brazil, jalap from Mexico, quassia and guaiacum from the West Indies, and sarsaparilla, copaiba, and cinchona from the slopes of the Andes or the tropical parts of South America.[1] The same process of the reinforcement of the healing art continues to our own time, for have we not eucalyptus from the aborigines of Australia and coca from the mountaineers of Peru? And only gradually and after many years is the empirical use of our remedies substantiated and explained by scientific inquiry. A similar observation applies with even greater force to dietetic treatment, and the use of waters and baths, to physical treatment and regimen, and mental therapeutics. These are at present regulated far more by custom and authority and experience than by exact scientific analysis.

In these days the scientific method has opened up so many provinces of knowledge that there is a pardonable haste to make it the touchstone of all truth, in medicine and elsewhere, and to discredit every opinion and practice that has not a clearly ascertained rational basis. A moment's reflection upon the history of medical science and medical art, their true relations and scope, suffices to show that this is as yet an impossible claim. There can, of course, be no discords in true knowledge, but there is no finality. The mind must always receive whatever comes to it authorised by sufficient evidence and reject whatever is shown to be incompatible with ascertained fact. Art is called upon to occupy a field co-extensive with life, far too great for science to define as yet. It is a proud justification of our art that again and again after many centuries science in a later time has established and confirmed its methods upon a rational and permanent basis. In medicine practice has always been in advance of theory, but they are one in object and must ultimately be in full accord.

The example of the man whom we celebrate to-night illustrates the union of science and art in one person. John Hunter is first of all a naturalist, quick as a sensitive plate to receive and record the authentic impressions of nature; then an experimentalist, putting questions and loyally abiding the answers; then a theorist, using a trained

imagination to classify and coördinate his data; lastly, a medical artist—a practitioner—furnished with the best available methods, whether drawn from the general experience or founded upon scientific inquiry. In spite of Hunter's dislike of systems and his pretended abhorrence of definitions the *growth of principles*—shall we say the orderly crystallisation of knowledge?—was always going on in his mind and gave simplicity and distinction to his teaching. Therefore in the endeavour to examine some of the principles now underlying the daily treatment of disease in the twentieth century it cannot be said that we are wandering from the Hunterian tradition.

TREATMENT OF CHRONIC DISEASE: ILLUSTRATIVE CASES.

It has been well stated by Wilks that "disease is slow," that it is by nature gradual and chronic, that so-called "acute diseases" are but accidental events in its course or at its close.[2] The distinction between acute and chronic, though somewhat artificial, is, however, more valid from the therapeutic point of view. As regards acute diseases, we are all now pretty much agreed upon the principles of treatment. We recognise that for the acute phase of disease there is a limited course and a natural process of recovery with wide variations in individual cases. Our aim is, therefore, in the first place to remove the impediments to recovery, to place the patient in the best place for recovery, to relieve pain, and to mitigate dangerous reaction.[3] These are familiar principles, but they involve not only accurate knowledge of the natural process, but also from time to time active interposition in the conduct of the case. It may, however, be described as *indirect* or *adjuvant* treatment, taking the form sometimes of "masterly inactivity," and sometimes of active interference.

We have, secondly, the *specific* or directly curative treatment of acute disease. Specific treatment is to-day the most important weapon of therapeutics. The principle upon which it relies is the counteraction of specific poison and the production of immunity. At present limited in range to a few maladies, such as small-pox, diphtheria, dysentery, tetanus, snake-bite, hydrophobia, enteric fever, &c., the operation of this principle, once so much derided, is probably destined to cover the whole field of diseases owning a specific origin, whether in the acute or chronic phase. It is interesting to notice that Hunter said, "It is more than probable that most diseases have some specific quality." Obviously the problem of treatment becomes by so much the simpler when this factor of causation has been ascertained. With regard to most chronic affections, their treatment is difficult, because our knowledge of their causation is imperfect. The following history illustrates a not uncommon malady in the middle period of life and the methods of treatment that were employed to overcome it.

CASE 1.—A lady, of gouty family, contracted what was described as "blood poisoning" at 36 years of age. It began acutely with gastro-enteric disturbance, and continued for two years in the form of recurring diarrhœa. There were much loss of weight (6 stones in 12 months) and prolonged nervous prostration. Failing benefit from drugs, recourse was had to hydropathic treatment. Later she went for three seasons to Kissingen, with marked relief to the intestinal catarrh. For many years the symptoms recurred at intervals, especially after an attack of influenza at 46 years of age. At this time the skin was dry and inactive, with much mucoid subcutaneous deposit, the peripheral circulation was very defective, and there was a troublesome liability to what she termed "internal chills." Any considerable fatigue, whether physical or mental, brought on attacks of insomnia, with palpitation and distressing restlessness. The heart and kidneys appeared to be healthy. Two years later (æt. 49) after a course of peat baths at Strathpeffer the condition of habitual chilliness gave place to a sense of heat, with profuse and frequent perspirations. In this condition the heart's action became rapid and the abdominal aorta was dilated, throbbing, and tender to touch. The sense of pulsation throughout the body was distressing, with mental and physical restlessness. Absence from home in a cool and bracing air and a course of salt baths at 90° F. were prescribed, with much relief to the vaso-motor disturbance. At this time the late Dr. Sansom regarded the case as one of Graves's disease, although the thyroid gland was smaller than ordinary and there was no exophthalmos, which subsequently developed, but only to a slight extent. As the summer came on it was found necessary to reduce the temperature of the baths, and in July the patient lay daily for two hours in salt water at 88°. She then went for four months to the north of Scotland, and cold needle baths did much to restore normal vaso-motor tone. From the ages of 49 to 55 years the patient had many attacks of profuse and offensive diarrhœa, sometimes with a little mucus but more often without. In one attack, which lasted for 40 hours, 20 pints of an offensive brown fluid were passed by the bowel and the patient lost 10 pounds of weight in two days. Before these attacks there was generally a "heat wave" for perhaps two weeks, the heart's action was rapid and galloping, and there was a sense of general fulness and distress. The attack brought marked relief to these symptoms, and the pulse usually became slow and slightly irregular with an increase of blood pressure to 150 or 160. In the colder months of the year she remained fairly well, but in the summer and autumn always sought the cooler climates of the north—in Norway or the Shetlands, or Strathpeffer, where she took brine baths at 10° or 13° below blood heat. The keen air of northern latitudes made her, to use her own words, "alive in every fibre," but in some places hindered sleep, whilst in other localities, such as Leadhills (1300 feet) in the south of Scotland, she could sleep soundly. The catamenia ceased at 55, after which she enjoyed very good health for 18 months, accompanied by a new and favourable development—viz., localised gouty deposits in the neighbourhood of the joints. Again two years later she is still liable to vaso-motor attacks in a much slighter degree, usually brought on by over-fatigue. These are always controlled by a course of effervescing or salt baths, and judicious rest and change of climate.

The middle age was regarded by Hunter himself as the epoch *par excellence* of nervous disorders. The growth of civilisation during the century that has elapsed since his time does not seem to have lessened the strain upon the nerve centres in middle life. No doubt in most cases the definite breakdown at 48 or 50 is preceded by some years in which disorder of function is sufficiently obvious and could be readily dealt with. The toxic element, as in the case that has been cited, is often a prominent factor. Toxic disease suggests a microbial origin, and therefore a specific treatment. To specific treatment we rightly look, if not to supply an antidote, to restore the lost immunity to specific invasion. This guiding principle plainly emerges from recent research and experience. But we have often to deal with toxic diseases of unknown origin. Specific treatment is therefore as yet impossible. We are driven back upon a second line of defence. Our guiding principle must now be to aid elimination and to mitigate the violence of reaction.

In this case there was an extreme disturbance of circulation. I wish to emphasise the fact that toxic circulatory disturbances can often be controlled by a judicious use of baths and climates. Sedative treatment, which as we know has a valuable application to acute disease, must also be assigned an equally important place in dealing with chronic affections. The treatment of circulatory disorders has been of late too exclusively associated with one particular form of bath at one continental resort. The truth is that cooling baths of various kinds and cool climates are of the greatest value, particularly in the different degrees of vaso-motor paralysis. The case that has been related shows that it is possible by such means to control an extreme form of vaso-motor disorder during a period of ten years, and to tide over the dangerous disturbance of the climacteric epoch.

CASE 2.—This case illustrates another condition belonging to the later and middle periods of life, and presents an interesting contrast to the condition just described. Here also the circulation and vaso-motor system are involved, but in a different manner. The patient, a married woman, aged 48 years, complained of "rheumatism" in the knees of three years' duration. There were some pain and swelling with slight crepitation in both the knee-joints and in one wrist. To these local conditions there was added some general plethora, with attacks of slight vertigo. The menses were natural. A course of sulphur waters and baths was taken. Six years later (aged 54) she reported that the menses had just ceased and that the rheumatism had subsided under the previous treatment. Slight symptoms of angina pectoris were, however, now apparent. An occasional course of alkalies and a more restful life were enjoined. It was noticed that she remained fairly well while the skin acted freely in a warm

climate, in which as a rule she resided. At 57 there was a smart hæmorrhage from the rectum, at 58 transient right hemiplegia with difficulty of speech for 24 hours. This passed off, but she remained subject to vertigo, faintness, and dyspnœa, and there was a chronic condition of dryness and chilliness of the skin. For the "heart weakness" and affection of breathing she had been given many cardiac tonics without benefit. On her return to England at 59 the heart was found to be hypertrophied, the action labouring and uneasy, the peripheral vessels everywhere contracted, the head hot and flushed, and the extremities habitually cold. The blood pressure was 160 millimetres. The late Mr. Marcus Gunn reported that the retinal vessels were small and evidently sclerosed. Some partial relief had been obtained by the use of calomel, iodides, and trinitrin. I was impressed by the contrasted condition of different areas of the circulation in the patient. In the cutaneous area and extremities a long continued vaso-motor spasm appeared to have resulted in a permanent sclerosis of the arterioles, as evidenced by the state of the retinal vessels. On the other hand, a localised loss of vaso-motor tone in other parts was indicated by the congestion of the face and head. It was obvious that this condition imposed increased labour upon the heart and threatened the integrity of the brain, and that drug treatment was of slight avail. I therefore determined on venesection, and this was repeated about twice in the year for six years, from 10 and 20, and on one occasion 24, ounces being taken. At the same time the diet was reduced and meats of all kinds were avoided. Marked and immediate relief of all the symptoms attended every venesection. There has been now (aged 68) no return of the paralytic symptoms, the health is fairly good, and the blood pressure ranges between 140 and 160 millimetres.

I give this history, extending over 20 years, as illustrating a chronic circulatory disorder with abnormalities in the distribution of the blood, in which the arterial pressure is apt to rise to a dangerous level, and in which active and repeated depletion with periods of rest appear to be the best principles of treatment. Baths and local application intended to assist the peripheral circulation are unfortunately often ill borne. The condition is aggravated in our home climates, and relieved by warm and equable temperatures. In this patient there were already signs of abnormal blood pressure at 48, it steadily increased to the climacteric at 55, after which it was accompanied by threatening symptoms. The condition of the surface circulation is undoubtedly related to abnormally high pressures, and hence, *cæteris paribus*, the relief of symptoms in warm climates. A series of observations upon arterial blood pressures in different individuals at different atmospheric temperatures would be of much interest. It would probably show in these cases a defect in the regulating power of the peripheral vaso-motor system.

It will be noticed that the effect of venesection is not at all so mechanical a matter as one might suppose, for the sedative effect on the circulation is out of proportion to the volume of blood removed. This neglected remedy finds, in my opinion, especial usefulness in the plethora which often follows the cessation of the menses, and again in later life in the sudden access of blood pressure that sometimes results from trifling disturbance of health. When these accessions of pressure are promptly relieved, cerebral hæmorrhage can often be averted even when the vessels are in an advanced condition of degeneration.

THE "INTENSIVE" TREATMENT OF CHRONIC DISEASE.

It may be confidently claimed that *sedative* and *eliminative* treatment—and especially in the form of climate and baths—have a special application to the nervous and circulatory disorders of middle life. Within the limits of climatic and balneological treatment, a great variety of these two great remedial influences are included. I am disposed to think that it would be well if the extent of these resources was more widely appreciated by the profession.

There is, however, another principle which underlies the treatment of some inherited and diathetic disorders. Many writers, like Hunter himself, have noticed that chronic diseases have sometimes been cured by acute ones. The chronic sluggish action of indefinite duration is replaced by a more intense action, that may run a short course and result in cure. Two actions cannot co-exist, and it may be better to have a brief acute action than a prolonged and chronic one. This is not a new doctrine. The principle on which it rests is undoubtedly true, and probably explains the beneficial effects of caustics, astringents, and blisters in many chronic local conditions. On this principle it is that Bacon seriously recommends "surfeits and excesses, or fasting or exercises" for persons with a chronic disease, "for," says he, "Diseases of continuance get an adventitious strength from custom, besides their material cause, so that the breaking of the custom doth leave them only to their first cause, which if it be anything weak, will fall off. ..... Besides such excesses do excite and spur nature, which therefore riseth more forcibly against the disease."[4] The rationale of this method is, by the introduction of a new influence, to modify or change the existing perturbation and to reinforce or intensify the natural reaction, which by hypothesis tends to cure. A striking modern instance of what may be called *intensive* treatment is furnished by Bier's methods for increasing the circulation of the affected part. The slow and obstinate course of disease in tissues like the cartilages scantily supplied with blood is familiar to us all. It may be noticed in passing that specific treatment is also an intensive treatment, for it establishes immunity by evoking an increased reaction in the tissues.

The experience of all spa physicians has shown that in cases of rheumatism and gout the use of waters and baths produces an initial increase of reaction, sometimes in a slight and insensible degree, but often accompanied by disturbing symptoms. Pains and stiffness are increased, joints, which perhaps had been long forgotten by the patient, become tender and swollen, and in cases of unstable equilibrium acute attacks may supervene. Such incidents are met with in the most favourable cases, and are often followed by a prolonged immunity from the symptoms.[5] Intensive treatment is one of the most valued elements in balneological practice, although it must be carefully watched and limited, and combined with an increase of elimination. Moreover, it can only safely be used where there is a fairly good dormant power of reaction. The following historic case, for which I am chiefly indebted to the account left by Sir Everard Home,[6] may illustrate the thesis that I have endeavoured to advance.

CASE 3.—John Hunter was a powerfully built man, short of stature, of a forcible and passionate nature, and—at all events in his adult age—a man of intense mental energy. In his youth he drank wine according to the custom of his time. At 20 years of age he began a life of application in London, broken later by two years spent at sea, from the ages of 33 to 35. We are told that this change enabled him to throw off an early pulmonary weakness which never afterwards troubled him. It is recorded of him that during the most active years of his life he allowed himself no relaxation or games and but little rest, taking four hours' sleep at night and one hour in the afternoon. At 40 he had his first attack of gout in the feet, which recurred in the spring of the three following years. For this established gouty habit, in spite of his own doctrine that it indicated an effort of nature to relieve an underlying disposition, he appears to have taken no treatment. The following year, at 45 years of age, the gout missed, and in its place occurred the first attack of angina pectoris. This was apparently excited, like many of his subsequent seizures, by mental disturbance. He was pulseless for three-quarters of an hour and only kept himself alive by voluntary respiration. Hunter appears after this time to have discontinued the use of alcohol and observed great spareness of living, to which, no doubt, his marvellous output of mental work may be partly attributed. For the remainder of his life he showed a peculiar intolerance of wine on the occasion of its medicinal use. This is a noteworthy, and indeed almost diagnostic, feature of many cases of gout. Four years passed, and then (aged 49) again in the spring of the year, he was seized with a severe attack of auditory vertigo, of which a minute and interesting description has been preserved. His sense perceptions were painfully heightened and curiously modified[7]; he lost his sense of dimension, position, and relative movements. In his vertigo, accompanied by sickness, objects appeared to revolve with increasing rapidity and then come to rest. The slightest movement of his head seemed like a large excursion in space. For ten days he could not raise his head from the pillow. On getting about he tried to persevere with his work, and then his friends, shocked with his feeble condition and altered appearance, compelled him to go to Bath. Here he drank the waters, remaining at the spa from September to

December, 1777, much against the grain, and then returned to London feeling, as he said, little better. It is stated, however, that on leaving Bath he continued to improve and shortly afterwards regained his health.

As an old balneologist I may here state that this is the normal and favourable experience in the treatment of gout by mineral water. John Hunter should have repeated his treatment for three or four consecutive seasons. The action of those waters which are beneficial in gout may be regarded as two-fold. In the first place they intensify the natural reaction of the tissues and so promote and restore the normal periodic local manifestations of the disease; and secondly, they assist the removal of toxic matter by increased elimination. Hence it is that under spa treatment the gouty symptoms are often aggravated in the first instance, and the good results are not declared for weeks or months. The same observation applies to many other disorders, such as chronic rheumatism and degenerative arthritis, in which treatment is intensive or perturbative in character, and may at first discourage the physician as well as the patient by provoking increased reaction in the tissues.

After this long retreat at Bath, under the intensive and eliminative action of the waters, and in a sedative climate, we hear of no further breakdown for several years. He had slight attacks of giddiness and the friendly podagra recurred now and then. But at 57 years of age, once more in April, a serious attack of angina occurred. Slight seizures continued all the summer, only relieved with the appearance of gout in the toe. That there was now an active change going on in the coats of the vessels is suggested by a note of Sir E. Home that he found some "contraction" of the arteries and tenderness along their trunks. The nervous element is indicated by attacks of polyuria. This year Hunter tried Tunbridge Wells for a short time. If, a gouty subject, he drank the waters, it is not surprising that he became worse. In September he returned to Bath, again taking the thermal waters and using hot baths and foot-baths on alternate days. It is interesting to know that for three weeks he felt no benefit, that at the beginning of the fourth week he began to improve, and after six weeks returned to London markedly better. The famous portrait by Sir Joshua Reynolds at the College of Surgeons belongs to this period. During the ensuing years his physical powers became more limited, his health precarious, and attacks of pain frequent. In spite of these warnings of progressive degenerative change Hunter continued his work and died in harness from angina pectoris at 64.

A similar story could be told of too many members of our profession—both John and William Hunter, Sydenham, and Cheselden, and in our own time Andrew Clark—gout or gouty symptoms for many years, and vascular degeneration and angina or hæmorrhage at the end, at 63, 64, or 65 years of age. Brain workers seem to be under a special liability in this regard, and many have died from Hunter's complaint in the early fifties, like George Whitfield and Arnold of Rugby. It is not improbable that King Alfred died from the same disease at 51. Is it too much to say that many such lives, lost in the full vigour of their intellectual powers, might have been saved? A reasonable curtailment of mental work, provision of congenial relaxation and sufficient hours of rest, a recourse during a portion of each year to sedative climates, and repeated and persevering use of balneological treatment,—these are measures upon which we can now confidently rely to maintain the balance of health and delay the process of dissolution, at least for a time and often for many fruitful years.

RETARDATION OF DISEASE.

It has been well said that the *retardation* of disease is a prime function of medicine.[8] After all, cures are but relative. In the intricate chemistry of the living body the processes of disease may be wholly or partially arrested. Even malignant growth may become quiescent. The problem of treatment, therefore, sometimes resolves itself into retarding a morbid process to the natural limit of life. We daily meet with chronic conditions of arrested or slowly progressive disease, with damaged organs and limited powers of resistance. Such affections are common in middle life, and in their limitations they resemble old age. The natural provision for withstanding disturbing influences (for example, the reaction to cold) has been lost—and also more or less the normal capacity for work. The treatment of such conditions is therefore mainly by way of *protection* and *adjustment*. A wise treatment should provide efficient protection against vicissitudes of temperature and other disturbing influences, and also adjust the burden or work—food, exercise, mental work—to the lowered capacity.

The effect of warmth and food in maintaining immunity against many specific invasions is a familiar fact in the history of epidemics. The same observation has been made with regard to the lower animals. Chickens are made susceptible to anthrax by exposure to cold, pigeons by starvation, and white rats by a vegetable diet.[9] A friend whose mental power is as remarkable as his physical resistance and reaction are limited by circulatory disorder writes me that the secret of health in his case is the prevention of "colds." And to avoid colds or chills he must not let down his bodily heat even for half an hour. It is fatal for even the feet to become cold, and he especially condemns linen sheets and the dressing and undressing in chilly rooms. It is obvious that in such cases much protection is requisite in our climate. To how great an extent a guarded life and suitable climatic changes can sometimes retard the processes of disease the following example may show.

CASE 4.—A frail anæmic man, aged 70 years, presented himself for treatment at Strathpeffer. He was much bent with cervical arthritis following on rheumatic fever at 45 and injury received by a fall from his horse. There was also commencing senile degenerative arthritis in the bases of the thumbs and elsewhere. The arteries were hard and tortuous, the action of the heart feeble, digestion weak and uncertain, and there was of late a liability to chills and bronchitis accompanied by pyrexia and threatened heart failure. This had kept him much indoors. It was remarkable how quickly sleep and digestive and muscular and nervous energy improved in the Scottish climate. As I have elsewhere pointed out, Strathpeffer shares with the north-eastern parts of Scotland a singular and bracing climate which makes the whole district from the Dee to Dornoch one great health resort. Over all that region there must be some special virtue in the atmosphere. No meteorological instruments are fine enough to detect and record it, but it is a quality to which living organisms at once respond. It gives an added brightness to the colouring of birds and flowers. It produces in man a feeling of exhilaration and expansion, of added capacity for exertion, increased appetite, and sounder sleep. It affords for elderly and debilitated subjects a very favourable "change of air." In this case warm douches and sulphur baths with massage were also employed. For 12 successive years he continued his yearly visits, even when he could no longer walk. The patient's condition at 78 years of age is well indicated in a brief note by Dr. Hingston Fox: "Senile degeneration, heart now failing, probably dilated atheromatous aorta, high tension, emphysema, risk of bronchitis, will he survive the winter?" After the date of that note he continued to take his month at Strathpeffer for three more seasons, enjoying the fine air and drives among the hills, and died from bronchitis at 81. This gentleman, who was a shrewd and capable observer, was fond of expressing the opinion, founded upon his own experience, that life and tolerable health could often be prolonged for many years in the case of old people if judicious recourse was had to climate and baths. The case illustrates the extent to which the use of these methods of treatment in the later years of life may allay functional disturbance, stimulate a failing heart or digestion, increase the resistance of the tissues to catarrh, and so retard and even arrest degenerative processes.[10]

PRINCIPLES OF TREATMENT.

It is a too familiar fact that disease and ailments of indeterminate causation and indefinite duration make up the greater and more formidable part of the work of the practitioner. Troublesome and insistent symptoms; a history of many failures to remove or even to relieve them; harassing limitations imposed upon the patient; consequent discouragement and the fear of worse evils—these are the features of too many forms of habitual mental and physical ill-health. What a severe test do they impose upon the skill and patience of the medical adviser! Can it be owing to some failure on our part that so many persons seek various irregular methods of treatment, which are alike only in being vaunted with absolute confidence as a panacea for their ills? And confidence, however slender its basis, has sometimes been justified. Have we not found that many habitual invalids who have been overmuch dominated by the consciousness of disease have experienced relief from the

persuasion that disease and pain have no existence? The fact suggests that it may be possible for us to believe too much in material diseases. Can it be that we, having in our art a good and valid ground of confidence, sometimes fail to appreciate it for ourselves and to evoke it in others? In comparison with our fathers we possess a far greater knowledge as to the processes of disease in the tissues. On the other hand, we have lost their confident faith in drugs. To a great extent we have disregarded not only their theories but their remedies. The excesses of polypharmacy and antiphlogistics have reacted strongly towards scepticism. In the case of disorders that run a brief course and tend to cure, good has no doubt resulted from the abandonment of "heroic" therapeutics, but in chronic disease, on the other hand, simple expectancy is doomed to failure. What canons, it may be asked, still remain to us from the practice of our forefathers? What new lights have arisen to advance our therapeutics? It is sometimes needful that we should be reminded even of familiar principles in order to recognise their validity and to apply them with confidence.

It has been sometimes alleged that medical treatment is only symptomatic or opportunist in character. That is to say, that it is content to deal with disturbances as they arise, and does not concern itself with causes. According to this theory we give stimulants for depression and narcotics for excitement, astringents for a flux and cooling remedies for a fever. Such a statement to-day falls very far short of the truth. A treatment of symptoms only requires little knowledge and is quite as often injurious as it is helpful. Our therapeutics are founded not upon symptoms but upon causes, and where we have as yet an incomplete knowledge of causes we have at least the guidance of well-tried and rational principles. Our survey has shown us that for many diseases, and their number is constantly increasing, we have already to our hand a direct *specific* and curative treatment. We have seen that specific and preventive medical treatment applies not only to acute but to chronic disorders, and we believe that it is likely to extend its scope as the knowledge of the causes of disease is increased. Furthermore, we have also recognised another and equally important branch of treatment. Unlike the direct and specific treatment, this does not at once deal with the causes of disease, but is indirect in its operation, removing the results or modifying the tissue reactions of disease. It is upon this indirect treatment that we have mainly to rely in dealing with chronic disorders. We have found its branches four in number, embodying four great principles of the greatest practical value. In the first place *eliminative* treatment removes not only the *materies morbi* but the by-products and deposits that result in so many cases from morbid processes. Secondly and thirdly, we have *sedative* and *intensive* treatment. These two are opposite in principle but often combined in action, because treatment that is sedative in one part may be intensive in another. Sedative treatment abates and minimises the reactions of disease. Since Nature in her reaction so often overshoots the mark, it is needful that we should be able to control and assuage the disturbance, and the employment of many drugs, as well as physical methods, rests upon this principle. Intensive treatment, on the other hand, stirs up and reinforces the natural reactions in chronic disease. Sometimes, in a truly specific manner or from the elective affinity of the tissues, its effects are recognised only in the disordered parts and always in the sense of rendering a chronic action more acute and therefore more susceptible of cure. Last among the indirect methods of treatment, we have the *retardatory*, which includes the principles of *protection* and *adjustment*.

Any discussion, however cursory, of the ground of our therapeutics cannot but enforce the conclusion that no narrow views are possible in medicine. We work in the boundless field of life and of nature. It may be that the increases of knowledge that come to us year by year may seem to throw into greater relief the vast extent of what we do not, and perhaps cannot, know. The advances of science may even bring us moments of discouragement and distrust. We may feel inclined to exclaim, like Lord Melbourne, "I wish I were as sure of any one thing as Tom Macaulay is of everything." Or we may in our daily work be too conscious of the obstacles that we cannot surmount, of the pressure of forces that we cannot stay. We cannot invent a new nature, in which evolution and dissolution shall be replaced by a changeless life. Mutability is of the essence of all things. "The whole creation *moves*," as the poet has said, but from that fact we may draw courage and confidence. For it *moves* according to an unchanging law, of which we are privileged to be, in our humble degree, the interpreters and ministers.

Bibliography.—1. Flückiger and Hanbury: Pharmacographia. 2. Sir S. Wilks: THE LANCET, 1885, vol. ii., p. 206. 3. Sir John Forbes: Nature and Art in the Cure of Disease, 1837. 4. Bacon: Sylva Sylvarum, ed. 1660, p. 27. 5. Touton of Wiesbaden: Practitioner, July, 1904. 6. Sir Everard Home: A Treatise on the Blood, &c., by the late John Hunter, with a short account of the Author's Life, 1794. 7. R. F. Fox: Some Uncommon Nervous Symptoms, Transactions of the Hunterian Society, 1898-99. 8. The Treatment of Chronic Disease, leading article in THE LANCET, 1880, vol. ii., p. 385. 9. W. F. Harvey: Scottish Medical and Surgical Journal, January, 1906. 10. R. F. Fox: The Value of Health Resorts in Advanced Life, Journal of Physical Therapeutics, July, 1901.

THE DIAGNOSTIC VALUE OF THE CHEMICAL ANALYSIS OF THE GASTRIC CONTENTS AFTER A TEST MEAL.[1]

BY W. H. WILLCOX, M.D., B.SC. LOND., M.R.C.P. LOND.,
PHYSICIAN TO OUT-PATIENTS, ST. MARY'S HOSPITAL, LONDON.

IN clinical cases presenting definite symptoms which may be referred to the stomach the importance of a careful and thorough examination of the gastric contents is becoming increasingly recognised. Several valuable papers on pathological conditions of the stomach and duodenum have recently been published, in which the routine examination of the gastric contents is urged as a valuable aid to diagnosis. Two of the most recent of these were read before the Royal Society of Medicine on March 8th, 1910, and dealt with the gastric disturbance set up by lesions of the appendix.[2] [3]

In all cases presenting persistent gastric symptoms which resist ordinary medical treatment there is no doubt that a careful investigation of the gastric contents should be made, since by this the diagnosis can be placed on a surer basis, and the correct course of treatment be more clearly indicated. It cannot be too strongly urged that in every case on which an operation is to be performed for symptoms referable to the stomach a preliminary examination of the gastric contents on chemical lines should, if possible, be made, since this will in many cases guide the surgeon not only as to the probable diganosis but will also often suggest to him the best course of procedure after the abdomen is opened, and indicate whether a gastro-enterostomy is likely to be of benefit. Of course, it is obvious that in acute perforative lesions of the stomach and duodenum of sudden onset previous investigations are quite out of the question, since immediate operation without any delay is imperative.

As will be subsequently shown, there is no doubt that the composition of the gastric contents after a test meal varies considerably, according to the pathological condition of the stomach, and a particular disease of the stomach is associated with a gastric content of a definite type.

There is no doubt that there are many gastric cases in which the fullest consideration of the clinical symptoms and physical signs does not enable a diagnosis to be made with certainty. The diagnosis may be reduced to perhaps two or three possible pathological conditions. It is in cases of this kind that an analysis of the gastric contents after a test meal is of the utmost value, since it will usually indicate which of the probable diagnoses is the correct one; and the diagnosis based on a careful clinical investigation, together with a thorough chemical investigation of the gastric contents, is rarely at fault. It must, on the other hand, be remembered that the diagnosis of a gastric case must not rest on the chemical analysis of the gastric contents alone.

The first step towards the making of a diagnosis must be a careful consideration of the clinical symptoms and physical signs, and afterwards this should be supplemented by the

[1] A paper read before the Royal Society of Medicine (Pathological Section) on March 15th, 1910.

[2] W. Soltau Fenwick: The Clinical Significance of Gastric Hypersecretion and its connexion with Latent Disease of the Appendix, THE LANCET, March 12th, 1910, p. 706.

[3] H. J. Paterson: Appendicular Gastralgia, THE LANCET, March 12th, 1910, p. 708.

chemical investigation of the gastric contents after a test meal. In some cases further valuable information will be elicited by examinations of the stomach and intestines by means of the X rays after a meal containing harmless bismuth compounds in adequate amount.

Examples of cases where the gastric analysis is of great value are those where there have been persistent dyspeptic symptoms for many months, associated with anæmia and wasting, physical examination shows resistance in the epigastric region, and possibly a lump is felt. In cases of this kind the diagnosis usually rests between a chronic ulcer of the stomach and carcinoma, and it is commonly impossible to say which of these lesions is present. If a gastric analysis be made in cases of this kind the diagnosis between the two conditions can be made with practical certainty, and then the prognosis and treatment are clearly indicated.

Again, a case presenting persistent dyspeptic symptoms with dilatation of the stomach may, in the absence of a marked anæmia or wasting, and in the absence of any lump or resistance in the epigastric region, be diagnosed on clinical grounds alone as chronic gastritis or gastric ulcer. The gastric analysis will clearly differentiate between these two conditions.

It is important that in the chemical investigation of the gastric contents a definite technique should be adopted, as it is only by this means that comparative results can be obtained. It is important that the analysis should be made by one accustomed to careful and accurate analytical work.

It is proposed to indicate briefly the methods that have been employed in the pathological chemistry laboratories of St. Mary's Hospital for several years, and which have been found to be simple and accurate and well adapted for clinical work, while at the same time furnishing much valuable and reliable information for purposes of diagnosis. It is not intended to give the full analytical details of the methods employed since these have been already published [4 5], but a brief *résumé* of them will be given, since it is on them that the subsequent deductions are based.

When a case comes under treatment the patient should be kept at rest in bed on a liquid diet for two or three days. If there is great dilatation the stomach should be washed out and completely emptied on the day before the test meal is given. In the early morning after the preliminary treatment a test meal should be given consisting of 1 pint of weak China tea with a little milk and sugar if desired, and a round of thin buttered toast. The patient should rest in bed after taking the test meal, and in one hour's time the contents of the stomach should be syphoned off by means of a soft stomach-tube. It is important that no water should be added to the gastric contents, and this is quite unnecessary, since the syphon action can be readily started by the withdrawal of air from the distal end of the stomach-tube by means of a glass syringe. As much of the gastric contents as will flow should be withdrawn and the quantity measured. The amount obtained gives a measure of the motor power of the stomach.

The general appearance of the contents should be noted as regards colour, viscidity, smell, &c. In gastric carcinoma and chronic gastritis the contents are viscid and slimy, and filter badly. In gastric ulcer and hyperchlorhydria the contents are thin and filter quickly. The appearance of blood and bile can be usually recognised, and further confirmatory tests should be applied for them. In rare cases fæcal material may be suspected and then tests for stercobilin should be applied.

Microscopical and bacteriological examinations of the gastric contents may be made and are of importance in cases of suspected carcinoma, but it is proposed in this paper to deal only with the chemical examination.

The gastric contents should be filtered, care being taken to prevent evaporation; the filtrate is used for the subsequent analysis.

Total acidity.—This should be determined by titration with decinormal barium hydrate solution in the presence of phenolphthalein as indicator. The normal acidity of the gastric contents corresponds to about 0·15 per cent. of hydrochloric acid (from 0·1 to 0·2 per cent.). In hyperchlorhydria and in gastric and duodenal ulcer the total acidity is above normal and usually corresponds to over 0·2 per cent. of hydrochloric acid. In gastritis and gastric carcinoma the acidity is low and usually corresponds to less than 0·1 per cent. of hydrochloric acid. Too much importance must not be attached to the result of the estimation, since the all-important point is how much active hydrochloric acid is present. In some cases the total acidity of the gastric contents may be normal or even above normal, while the active hydrochloric acid is much reduced; in these case a large proportion of the total acidity is due to the presence of organic acids.

Hydrochloric acid.—This may exist as: 1. Free hydrochloric acid—i.e., the acid is not combined with any base, either inorganic or organic. 2. Hydrochloric acid which is combined (*a*) with proteins, and (*b*) with other nitrogenous organic bases. (The above forms constitute the active hydrochloric acid.) 3. Hydrochloric acid which is combined with inorganic bases to form neutral salts—e.g., sodium chloride.

Since the free hydrochloric acid and the hydrochloric acid combined with proteins and organic bases must have all been originally secreted by the gastric glands and represent the amount of hydrochloric acid in the gastric contents secreted by the stomach it is convenient to use the term "active hydrochloric acid" to collectively represent these two forms in which hydrochloric acid is present. The hydrochloric acid which is combined with inorganic bases does not bear any relation to gastric secretion and need not be considered. It was probably taken into the stomach as such in food.

Free hydrochloric acid.—This should be tested for by Töpfer's test (dimethyl-amido-azobenzene solution in alcohol). If the test is positive it should be confirmed by Günzburg's test, which is more reliable, since if organic acids are present in excess Töpfer's test may be positive while no free hydrochloric acid is present. Günzburg's test is not given by organic acids. If Töpfer's test is negative it may be considered that free hydrochloric acid is absent. If desired the free hydrochloric acid may be estimated by titration with decinormal alkali, dimethyl-amido-azobenzene being used as an indicator.

I do not attach much importance to the amount of free hydrochloric acid present, since this is determined largely by the quantity of protein and organic bases in the gastric contents, and the amount of free hydrochloric acid does not indicate the total hydrochloric acid secreted by the stomach, but only the excess of that required to combine with the proteins and organic base. In hyperchlorhydria and gastric ulcer, and also in normal conditions of the stomach, free hydrochloric acid will invariably be found after the above test meal. In gastric carcinoma and chronic gastritis free hydrochloric acid will usually be absent.

Active hydrochloric acid.—This estimation is of the greatest importance in the analysis of the gastric contents, since it represents the total hydrochloric acid secreted by the stomach, and it is the active hydrochloric acid estimate on which reliance is to be based in diagnosis.

The amount of active hydrochloric acid present in the gastric contents usually approximates closely to the total acidity when organic acids are present in small quantity. A rough estimate of the organic acids present is given by the difference between the total acidity and the active hydrochloric acid, the active hydrochloric acid being usually slightly lower than the total acidity. In rare cases the active hydrochloric acid, as determined by the process mentioned below, is slightly higher than the total acidity. In 2 out of 50 recent consecutive test meals analysed at St. Mary's Hospital this was found to be the case. One was from a case of chronic gastric ulcer, where the total acidity was equal to 0·19 per cent. of hydrochloric acid, while the active hydrochloric acid was 0·22 per cent. The other case was one of pernicious anæmia, where the total acidity equalled 0·02 per cent. of hydrochloric acid, while the active hydrochloric acid was 0·04 per cent. The fact of the active hydrochloric acid being slightly higher than the total acidity can be accounted for by a small portion of the hydrochloric acid being combined with some volatile organic base, which forms a salt neutral to phenolphthalein. Professor B. Moore [6] has carefully investigated the cause of this, and

[4] Willcox: The Chemical Examination of the Gastric Contents THE LANCET, June 10th, 1905, p. 1566.

[5] Willcox: The Chemical Examination of the Gastric Contents after a Test Meal, with a New Method for Estimating the Ferment Activity, THE LANCET, July 25th, 1908, p. 220.

[6] Moore: A Study of the Pathological Variations in the Acidity of the Gastric Contents, especially in Relation to Malignant Disease, Bio-Chemical Journal, Liverpool, vol. i., p. 274.

suggests that the hydrochloric acid is combined with an organic base. He has found that the excess of the hydrochloric over the total acidity cannot be explained by the presence of ammonium chloride, because ammonia was not present in sufficient amount to account for it. Emerson[7] has found hexone bases in cancer of the stomach, and it is possible that the presence of these will account for the excess of the active hydrochloric acid over the total acidity in the exceptional cases where this occurs.

The method employed for the estimation of the active hydrochloric acid, which has been found by me to be the most reliable and most suitable for clinical pathological work, is an adaptation of the Volhard process for estimating chlorides (the modified Volhard-Luttke method).[8] This method is one in which the hydrochloric acid is directly estimated. It has been tested with solutions of hydrochloric acid of known strength in the presence of proteins and substances such as those found in gastric contents, and it has been found to give extremely accurate results. Two equal portions of gastric contents are taken: to one, pure sodium carbonate is added in excess; both are evaporated to dryness and ignited at a low red heat so as to thoroughly char and decompose the organic matter present. The chlorides in each are then estimated by Volhard's process in the dishes in which the ignition is done, there being no necessity for any previous filtration before the titration. The difference in the two results gives the amount of active hydrochloric acid present. The method is very simple and quick. It is well adapted for clinical purposes. There is no risk of loss from volatilisation of sodium chloride, since it is quite unnecessary to heat until the ash is white.

The importance of a quantitative determination of the amount of active hydrochloric acid in the gastric contents is very great. The recent physiological research on pancreatic and gastric secretion by Bayliss and Starling,[9] by Edkins,[10] and others shows how great is the importance of the presence of hydrochloric acid in the gastric contents, and suggests the necessity of the medicinal administration of hydrochloric acid in cases where the gastric secretion is insufficient. The work of Bolton[11] on the pathology of gastric ulcer shows the important relationship of an excess of hydrochloric acid in the causation of gastric ulcer. Thus, if gastrotoxin is introduced into the wall of the stomach of an animal, necrosis and ulcer will result, but not if the hydrochloric acid is previously neutralised by sodium bicarbonate. Lenhartz, in his valuable system of treatment of cases of gastric ulcer, has made use of the fact that free hydrochloric acid can be combined in great measure with proteins administered as food. Thus raw eggs, scraped raw, or underdone meat, &c., with milk are given for the purpose of removing free hydrochloric acid and so alleviating the symptoms and promoting the healing of a gastric ulcer.

The quantitative significance of the amount of active hydrochloric acid present in the gastric contents in various pathological conditions of the stomach is dealt with below. The amount of active hydrochloric acid in a normal case with the above technique is about 0·15 per cent. (between 0·1 and 0·2 per cent.). It does not follow, if the active hydrochloric acid is normal in amount, that no pathological lesion of the stomach is present. Clinical symptoms must be carefully considered also. The active hydrochloric acid may be increased (hyperchlorhydria) or diminished (hypochlorhydria). In cases presenting gastric symptoms an increase of hydrochloric acid is commoner than a diminution.

Organic acids.—Lactic acid should always be tested for. A rough estimate of the amount of organic acids present is indicated by the excess of the total acidity over the active hydrochloric acid. When organic acids are absent these two estimations are usually equal. If organic acids are present in appreciable amount, the quantity of volatile and non-volatile acids may be determined. In cases of carcinoma of the stomach and in chronic gastritis lactic acid is commonly found. In hyperchlorhydria and normal conditions of the stomach organic acids are absent or present only in slight traces.

Mucin.—This should always be tested for. It is commonly present in carcinoma of the stomach and in chronic gastritis; also in children it is usually found in cases of congenital pyloric stenosis. In gastric ulcer and hyperchlorhydria mucin is usually absent from the filtered gastric contents.

Sulphocyanides should be tested for. They are usually absent from the gastric contents of children. In adults the presence can only be regarded as evidence of swallowed saliva. The absence of sulphocyanides is no indication of gastric carcinoma, since they are often present in definite amount in this disease.

Ferment activity.—It has been found that the amount of rennin and renninogen present in the gastric contents is a good indication of the quantity of pepsin and pepsinogen, so that an estimate of the former is sufficient for clinical purposes. A quick and accurate method has been published[12] which has been found very serviceable for clinical purposes. The determination of the ferment activity is of great importance and of almost equal value to the estimation of the active hydrochloric acid. In gastric ulcer and hyperchlorhydria the ferment activity is either normal or above normal. In gastric carcinoma, in chronic gastritis, and in pernicious anæmia the ferment activity is usually much reduced. The estimation of the ferment activity is a valuable check on the results obtained from the hydrochloric acid estimation.

TABLE I.—*Gastric Ulcer.*

(Recent cases at St. Mary's Hospital, London.)

No. of case.	Quantity (fluid ounces).	Total acidity as HCl (per cent.).	Mucin in filtrate.	Lactic acid.	Free HCl.	Active HCl (per cent.).	Ferment activity.
1	1	0·22	Absent.	Absent.	Present.	0·22	High.
2	8	0·122	,,	,,	,,	0·122	,,
3	3	0·122	,,	,,	,,	0·122	,,
4	4	0·24	,,	,,	,,	0·24	,,
5	2	0·175	,,	,,	,,	0·17	Very high.
6	8	0·189	,,	,,	,,	0·189	,,
7	?	0·297	,,	,,	,,	0·29	Not determined.
8	?	0·263	,,	,,	,,	0·26	,,
9	8	0·34	,,	,,	,,	0·34	High.
10	2	0·32	,,	,,	,,	0·31	,,
11	5	0·18	,,	,,	,,	0·17	,,
12	3½	0·19	,,	,,	,,	0·16	,,
13	6	0·19	,,	,,	Trace.	0·22	,,

Remarks.—Diagnosis confirmed in all of the above cases by subsequent operation (gastro-enterostomy). Cases 2, 3, 5, 6, 11, 12, and 13 were chronic ulcers with much thickening around them, the symptoms being of several years' duration.

The Composition of the Gastric Contents in Various Pathological Conditions.

1. *Gastric and duodenal ulcer* (Table I.).—In the great majority of these cases the active hydrochloric acid is markedly increased and free hydrochloric acid is present in excess. It is extremely rare for the active hydrochloric acid to be below the normal limits. Lactic acid and mucin are usually absent. The ferment activity is generally high. In some cases of chronic ulcer (e.g., Cases 2, 3, 5, 6, 11, 12, and 13, Table I.) the active hydrochloric may not be much raised, or may be only normal in amount, but in these cases free hydrochloric acid is usually present and the ferment activity is high.

Usually in gastric and duodenal ulcer the clinical symptoms are characteristic, and often a lump or thickening is felt in the pyloric region in cases of long standing. In such cases an excessive or even normal amount of active hydrochloric acid, together with a high ferment activity, is a clear indication that gastric carcinoma is not present, and often is a direct indication for gastro-enterostomy, the subsequent prognosis being good. On several occasions cases

[7] Emerson: System of Medicine, Osler and McCrae, vol. v., p. 236.
[8] Willcox: Loc. cit.
[9] Bayliss and Starling: Journal of Physiology, vol. xxviii., p. 325, vol. xxix., vol. xxx.
[10] Edkins: Proceedings of the Royal Society, London, 1905, vol. lxxvi., p. 376.
[11] Bolton: The Experimental Production of Gastric Ulceration by Injection of Gastrotoxin, Transactions of the Medical Society of London, vol. xxxi., p. 249.
[12] Moore: Loc. cit.

of hyperchlorhydria and high ferment activity have been seen in which a definite lump was felt in the pyloric region

TABLE II.—*Gastric Contents before and after Gastro-enterostomy for Gastric Ulcer.*

(Recent cases at St. Mary's Hospital, London.)

No. of case.		Total acidity (per cent.).	Mucin in filtrate.	Lactic acid.	Bile.	Free HCl.
1	Before operation ...	0·297	Absent.	Absent.	Absent.	Present.
	After ,, ...	0·116	Present.	,,	Present.	Absent.
2	Before ,, ...	0·292	Absent.	,,	Absent.	Present.
	After ,, ...	0·14	Present.	,,	Present.	,,
3	Before ,, ...	0·19	Trace.	,,	Trace.	,,
	After ,, ...	0·05	Present.	,,	Present.	Absent.
4	Before ,, ...	0·40	Absent.	,,	Absent.	Present.
	After ,, ...	0·31	Present.	,,	Present.	,,
5	Two years after operation ...	0·13	,,	,,	,,	Absent.

Remarks.—Gastric ulcer was found in all these cases.

on physical examination. The size of the tumour had raised the suspicion of carcinoma, but in all of these cases operation or necropsy has shown that the mass was due to an ulcer with inflammatory thickening around it.

The effect of gastro-enterostomy on the composition of the gastric contents in cases of gastric and duodenal ulcers is well illustrated by Table II., where the analysis is shown before and after the operation. It is seen that free hydrochloric acid was often absent after gastro-enterostomy, whereas it was always present before the operation. The active hydrochloric acid was found reduced in every case after the operation. Bile and mucin were generally found present after gastro-enterostomy, and no doubt they have the effect of partially neutralising the hydrochloric acid secreted by the stomach. This may explain the remarkable cessation of symptoms which cases of gastric ulcer present after gastro-enterostomy.

2. *Hyperchlorhydria without any gastric lesion.*—It must be remembered that hyperchlorhydria may exist without any clinical symptoms of its presence. Usually, however, it is associated with definite gastric symptoms, and when this is the case, probably if the symptoms are long continued and resist treatment, some such lesion as ulcer, erosion, or dilatation is present. Hyperchlorhydria is associated with a high ferment activity, and mucin and organic acids are usually absent.

3. *Chlorosis.*—An excess of active hydrochloric acid, together with a high ferment activity, is the usual condition here. Mucin and organic acids are absent. The well-known gastric symptoms so often met with in chlorosis are in great part due to the hyperchlorhydria present.

4. *Neurasthenia with gastralgia.*—Some of these cases are associated with hyperchlorhydria and high ferment activity. More often, however, the active hydrochloric acid and ferments are normal in amount.

5. *Atony of the stomach.*—Sometimes in young females this condition is associated with constipation, and hyperchlorhydria and high ferment activity. In one case the symptoms were so persistent and extended over such a long period in spite of all treatment that gastro-enterostomy was performed, which gave immediate relief. In most cases of gastric atony the active hydrochloric acid is reduced and the ferment activity low.

6. *Mucous colitis.*—Cases of mucous colitis are frequently associated with severe gastric symptoms, and an analysis of the gastric contents in many of these cases shows an increase of the active hydrochloric acid and ferments. In two cases recently seen the colitis was accompanied by a severe and sudden hæmatemesis owing to the gastric ulceration also present, which latter was associated with hyperchlorhydria. In some cases of mucous colitis of several years' standing it has been found that a hyperchlorhydria and high ferment activity in the early part of the disease have later become replaced by a diminution of hydrochloric acid and ferments.

7. *Cholelithiasis.*—This has been frequently found to be associated with hyperchlorhydria. Kaufmann[13] and Friedenwald,[14] and more recently Soltau Fenwick,[15] have called attention to this. The presence of hyperchlorhydria cannot, however, be regarded as an absolutely diagnostic sign of cholelithiasis, because sometimes, as has been found in my series of cases, the active hydrochloric acid was considerably below normal, but gall-stones were found on operation.

8. *Dietetic indiscretions.*—Heavy indigestible food, alcohol, or tobacco in excess may cause hyperchlorhydria, but commonly they set up a chronic gastritis, and then the gastric contents take on the special type of that condition.

9. *General conditions of ill-health.*—Febrile conditions and general diseases, apart from the presence of disease of the stomach, are frequently associated with a diminution of active hydrochloric acid. Professor Moore and Dr. Morton Palmer[16] have called attention to this.

10. *Chronic gastritis* is usually associated with a marked diminution in the active hydrochloric acid; free hydrochloric acid is absent. Mucin is usually present; lactic acid may be. The ferment activity is generally much reduced (*vide* Table III.). The gastric contents of these cases chemically

TABLE III.—*Chronic Gastritis.*

(Recent cases at St. Mary's Hospital, London.)

No. of case.	Quantity (fluid ounces).	Total acidity.	Mucin in filtrate.	Lactic acid.	Free HCl.	Active HCl.	Ferment activity.
1	6	0·067	Faint trace.	Absent.	Absent.	Not determined.	Very low.
2	1	0·065	Present.	,,	,,	,,	Low.
3	1	0·062	Trace.	Present.	,,	,,	Normal.
4	1	0·11	Absent.	Absent.	,,	0·11	Very low.
5	2	0·03	Present.	Present.	,,	0·02	Low.
6	4	0·05	Trace.	Trace.	,,	0·01	Very low.

TABLE IV.—*Pernicious Anæmia.*

(Recent cases at St. Mary's Hospital, London.)

No. of case.	Quantity (fluid ounces).	Total acidity (per cent.).	Mucin in filtrate.	Lactic acid.	Free HCl.	Active HCl (per cent.).	Ferment activity.
1	3	0·02	Present.	Absent.	Absent.	0·04	Absent.
2	3	0·10	,,	,,	,,	0·01	,,
3	4	0·02	,,	,,	,,	0·01	,,

Remarks.—Diagnosis in these cases was confirmed by examination of blood and by clinical symptoms.

very closely resemble those of gastric carcinoma; hence great care is necessary before arriving at a diagnosis of carcinoma of the stomach. Both the clinical picture and the analytical results must be carefully weighed.

11. *Cirrhosis of the liver.*—Usually in this condition there is a chronic gastritis and the gastric contents have the character of that condition (10).

12. *Pernicious anæmia.*—This condition has been found usually associated with a great diminution of the active hydrochloric acid and an almost complete absence of ferment activity (*vide* Table IV.). Mucin was generally present. The results obtained in this disease very strongly indicate the great importance of giving hydrochloric acid and pepsin to patients suffering from pernicious anæmia.

13. *Achylia gastrica.*—In this condition active hydrochloric acid is almost entirely absent and the intestine appears to perform all the digestive functions. The condition may exist without giving rise to any symptoms, but usually there are definite gastric symptoms, and in some

[13] Kaufmann: American Medicine, 1903, vol. vi.
[14] Friedenwald: Medical News, 1905.
[15] Soltau Fenwick: Loc. cit.
[16] Moore and Morton Palmer: Bio-Chemical Journal, vol. i., pp. 274, 398.

cases marked intestinal symptoms—e.g., diarrhœa with intervening periods of constipation—may be present. The condition may exist apart from pernicious anæmia or gastric carcinoma.

14. *Cirrhosis of the stomach.*—This is a rare condition, and only a few analyses have been published. Free hydrochloric acid is usually absent, and there is a great diminution of active hydrochloric acid.

15. *Gastric carcinoma.*—There is no doubt that in this condition there is a marked diminution in the active hydrochloric acid and in the ferment activity. When the disease is at all advanced free hydrochloric acid is entirely absent. Mucin and lactic acid are generally present. In a large number of cases of gastric carcinoma at St. Mary's Hospital, where a complete analysis has been made of the gastric contents, the active hydrochloric acid was in nearly every instance under 0·1 per cent. and the ferment activity was low (*vide* Table V.).

TABLE V.—*Gastric Carcinoma.*

(Recent cases at St. Mary's Hospital, London.)

No. of case.	Quantity (fluid ounces).	Total acidity (as HCl).	Mucin (in filtrate).	Lactic acid.	Free HCl.	Active HCl.	Ferment activity.
1	7	0·098	Present.	Present.	Absent.	0·089	Very low.
2	½	0·08	,,	,,	,,	Not determined.	,,
3	1½	0·00	,,	,,	,,	0·00	,,
4	?	0·087	,,	,,	,,	0·073	*Nil.*
5	1	0·00	,,	,,	,,	0·00	,,
6	15	0·182	,,	,,	,,	0·044	Low.
7	?	0·00	,,	,,	,,	0·00	*Nil.*
8	3	0·139	,,	,,	,,	0·03	Low.
9	?	0·15	,,	,,	,,	0·09	Not determined.
10	?	0·09	,,	,,	,,	0·04	,,
11	?	0·04	,,	,,	,,	0·02	,,
12	16	0·09	,,	,,	,,	0·01	Very low.
13	1	0·16	Absent.	Trace.	,,	0·026	,,
14	7	0·10	,,	Absent.	,,	0·08	,,
15	10	0·17	Present.	Present.	,,	0·04	,,
16	12	0·27	Trace.	Trace.	,,	0·05	,,
17	3	0·22	Absent.	Absent.	,,	0·13	Normal.
18	1	0·03	Present.	,,	,,	0·02	Very low.

Remarks.—In all of these cases the diagnosis was confirmed by operation or necropsy.

The amount of active hydrochloric acid present depends on the site of the growth. In pyloric carcinoma the amount present is greater than when the cardiac portion of the stomach is involved. When the pyloric portion only of the stomach is involved often the total acidity is normal or even increased, but in these cases the active hydrochloric acid is almost always below 0·1 per cent., the difference between the two being due to the presence of much organic acids. A great difference between the total acidity and the active hydrochloric acid is very suggestive of pyloric carcinoma (*vide* Table V., Cases 6 and 16).

In cases presenting persistent gastric symptoms, with wasting and anæmia and a lump palpable in the region of the stomach, if there is a marked reduction of the active hydrochloric acid and ferment activity the diagnosis of gastric carcinoma is almost certain.

There is no doubt that in some cases of gastric carcinoma the growth develops on an old ulcer. These cases are likely to show in the early stages a larger amount of active hydrochloric acid than the usual type of case. It has been stated that the hydrochloric acid may in these cases be normal. In all the cases examined at St. Mary's Hospital there has, however, been a definite reduction of active hydrochloric acid and usually of the ferment activity.

Cases have been seen in which the active hydrochloric acid has been normal or above normal, and when after operation the lump present was thought to be a carcinoma of the stomach. In every one of such cases where there has been an opportunity of microscopical examination after necropsy the lump has proved to be an ulcer with inflammatory thickening around it.

In connexion with the marked diminution of active hydrochloric acid found in gastric carcinoma, the question naturally arises whether the diminution is due to a defective secretion of hydrochloric acid, or whether it is due to a neutralisation of acid by alkaline secretions from the carcinomatous tissue. The answer to this question is given by the results of analyses in the two conditions. In gastric carcinoma the mean of six recent analyses showed: active HCl, 0·05 per cent.; inorganic chlorides as sodium chloride, 0·26 per cent. While for gastric ulcer the mean of six recent analyses showed: active HCl, 0·24 per cent.; sodium chloride, 0·34 per cent. (*vide* Table VI.). Hence in gastric

TABLE VI.—*Comparison of Active HCl and Inorganic Chlorides in Gastric Carcinoma and Gastric Ulcer.*

(Recent cases at St. Mary's Hospital, London.)

No. of case.	Gastric carcinoma.		No. of case.	Gastric ulcer.	
	Active HCl.	Chlorides as NaCl.		Active HCl.	Chlorides as NaCl.
	Per cent.	Per cent.		Per cent.	Per cent.
1	0·08	0·24	7	0·31	0·36
2	0·09	0·28	8	0·33	0·41
3	0·02	0·30	9	0·25	0·28
4	0·03	0·19	10	0·22	0·34
5	0·05	0·37	11	0·20	0·32
6	0·04	0·21	12	0·16	0·35
Mean ...	0·05	0·26	Mean ...	0·24	0·34

carcinoma the cause of the diminution of hydrochloric acid cannot be due to neutralisation, for if it were the sodium chloride would be increased, whereas the reverse is the case. The diminution of hydrochloric acid must be due to defective secretion and is, no doubt, caused by the associated gastritis.

16. *Carcinoma of organs other than the stomach.*—Moore and Morton Palmer have shown that in some of these cases the free hydrochloric acid and the active hydrochloric acid are reduced. The reduction is not sufficiently great to be of diagnostic value, because an equal reduction occurs in many other conditions of ill-health. The analyses made of cases at St. Mary's Hospital have shown that frequently in carcinoma of other organs than the stomach the active hydrochloric acid has been normal in amount, even when the growth was contiguous to, but not involving, the stomach. In cases of carcinoma of the transverse colon where there has been a lump in the region of the stomach the presence of active hydrochloric acid and ferment activity in normal amount has been made use of in correctly diagnosing the seat of the growth as being in the colon and not in the stomach.

Children.[17]

17. *Congenital hypertrophic pyloric stenosis.*—Usually free hydrochloric acid was absent and the active hydrochloric acid much reduced. Mucin was always found present. The ferment activity was normal or raised.

18. *Pyloric spasm in children without thickening of the pylorus.*—In these cases the active hydrochloric acid was found to be normal, but the ferment activity was low.

19. *Marasmus.*—In these cases free hydrochloric acid was absent. The active hydrochloric acid and ferment activity were very low.

Illustrative Cases in which the Gastric Analysis was of Great Value in Diagnosis.

CASE 1.—The patient, a woman aged 56 years, had had marked gastric symptoms for several months, with wasting, anæmia, and a lump in the region of the stomach. Active HCl, 0·28 per cent.; free HCl was present. Gastro-enterostomy was done by Mr. V. Warren Low in 1906. The patient is alive and well and is quite relieved of all symptoms.

CASE 2.—The patient, a man aged 60 years, had had dyspeptic symptoms for some months, wasting, and a lump was felt in the epigastric region. The vomit contained 0·08 per cent. active HCl, with

[17] Willcox and Miller: On Some Gastric Conditions in Wasted Infants, THE LANCET, 1907, vol. ii., p. 1670.

normal ferment activity; stercobilin was present. The diagnosis of carcinoma of the colon, ulcerating through to the stomach, was confirmed by operation.

CASE 3.—The patient, a woman aged 38 years, had had severe gastric symptoms for six months, marked wasting and anæmia, with great weakness; a lump was felt in the epigastric region. Active HCl, 0·16 per cent.; ferment activity above normal. Operation showed an ulcer with much induration around. Gastro-enterostomy was performed in April, 1909. The patient was completely relieved of symptoms, with increase of 2 stones in weight.

CASE 4.—The patient, a man aged 45 years, was operated upon in 1901, when a large mass was found which was thought to be malignant and left untouched. In 1907 the patient presented himself for severe gastric symptoms. The active HCl was above normal, and free HCl was present. Gastro-enterostomy was done, but the patient afterwards died from pneumonia. Necropsy showed that the large mass was an old thickened ulcer with induration around.

CASE 5.—The patient, a man aged 63 years, had had dyspeptic symptoms for six months with much wasting and cachexia; a lump was present in the epigastric region. Active HCl, 0·22 per cent.; free HCl was present; the ferment activity was normal. The diagnosis of carcinoma of the transverse colon, with normal stomach, was confirmed by operation.

CASE 6.—The patient was a man, aged 57 years. In August, 1908, he was an in-patient at St. Mary's Hospital, complaining of gastric symptoms and wasting of five months' duration. Analysis showed active HCl 0·19 per cent.; free HCl was present; ferment activity was normal. He was relieved by medical treatment and left the hospital. In September, 1908, he went to another hospital, where an exploratory laparotomy was performed, and gastric carcinoma was suspected; nothing was done. In June, 1909, he again entered St. Mary's Hospital and a gastric analysis showed that the active HCl and ferment activity were above normal. A gastro-enterostomy was performed, and an indurated mass—no doubt a thickened ulcer—was felt. The patient has been completely relieved of symptoms and now weighs 20 pounds more than before operation.

In conclusion I wish to express my hearty thanks to all my colleagues at St. Mary's Hospital for the numerous opportunities given me of making the investigations on which this paper is based. I am greatly indebted to Mr. John Webster, demonstrator of chemical pathology at St. Mary's Hospital, for his valued assistance in the analytical portion of the work.

Welbeck-street, W.

ON ACUTE ARTHRITIS OF DOUBTFUL ORIGIN.

BY G. BURNSIDE BUCHANAN, M.B., C.M. GLASG., F.R.F.P.S. GLASG.,

ASSISTANT SURGEON TO THE WESTERN INFIRMARY, AND TO THE CANCER HOSPITAL, GLASGOW.

SINCE joints are so liable to pains and are so frequently subject to inflammation, whether accompanied by fever or not, and yet so commonly recover without any lasting defects, the more serious disorders are apt to be disregarded in making a diagnosis in the earliest stages of arthritis. Too often inflammation occurring in joints is labelled rheumatism, and valuable time is lost in temporising with salicylates. And it is to call attention to those conditions which, though not common, are probably less rare than a superficial examination might suggest, that the following cases are presented. In many of them the diagnosis at first was obscure, and in some indeed the actual pathological conditions were only determined at a late stage. It is easy, of course, to be wise after the event, but it is also easy to be led astray by a series of phenomena which do not conform to classical symptoms.

CASE 1.—A boy, aged 7 years, was admitted to hospital in November, 1907, with pain, swelling, redness, and heat over the left hip. He had been ill for four days, and was sent as a case of osteomyelitis. The temperature was 104° F., the pulse was 176, and the respirations were 40, and there was slight albuminuria. The child, who was extremely emaciated and looked very ill, with flushed face, sunken eyes, and profuse sweating, was suffering greatly and was constantly crying out in a state of delirium. Movement of the leg did not elicit any special pain, but the whole thigh was tender to the touch. The abdomen was retracted, rigid, and tender on pressure all over, but there was nothing further to indicate any abdominal disease, and this abdominal condition disappeared in a few days. Under chloroform an incision was made over the trochanter, where the swelling and œdema were most localised. As no sign of pus appeared a small gouge was driven well into the neck of the femur with negative results as regards the discovery of abscess. The soft tissues round about were explored with similar results, but the joint was not opened. The wound was drained by gauze packing and a dressing applied. On the suspicion of acute rheumatic fever sodium salicylate was administered. Within 24 hours a uniform bright-red rash developed all over the skin, and the tongue presented a striking "strawberry" appearance, but the other symptoms gave no real indication of scarlet fever, which it much resembled. This rash passed off in a few days and was followed by copious desquamation. The pain at first remained as before the operation, on the outside of the thigh, but after a few days it became more clearly localised in the knee. It was then surmised that the knee had become involved, but the pain was not elicited by movements of the patella or by flexion of the knee, and was so specially on moving the hip; and this was taken to indicate in the absence of sufficient local signs that the inflammatory irritation was in the hip-joint. Accordingly, the joint was aspirated, and this diagnosis was confirmed by the appearance of a small quantity of sero-purulent fluid, which gave a pure culture of staphylococcus aureus. Extension was applied with weight and pulley, and without further aspiration or drainage the inflammation gradually but slowly subsided, the joint never at any time showing swelling or distension; while the first wound closed up rapidly. The boy meanwhile improved in every way, and under the influence of generous feeding and malt and cod-liver oil, by the time of his dismissal he was bright and cheerful and quite fat. In February (77 days from admission) he was sent to a home in the country, with his limb in a Thomas's hip splint; there he remained till April in good health. The joint was fairly moveable and all swelling of the leg had disappeared, but it was considered advisable to limit the movements for some time longer. At this time there was one inch of shortening.

A skiagram taken in the month of May showed—(*a*) considerable atrophy of the head of the femur, and (*b*) thinning and excavation of the acetabulum. From this it is right to suspect the possibility of a primary osteomyelitis of the acetabulum, which will be discussed later. This idea is in some measure corroborated by the abdominal symptoms, previously very obscure, but possibly attributable to the nearness of the disease of the pelvic bones to the abdominal cavity.

This abdominal tenderness and rigidity were so pronounced that it was suspected at first to be due to peritonitis, but it subsided without going on to suppuration. Such inflammations of the peritoneum are recognised as occurring occasionally, though rarely, in association with eruptive fevers and with erysipelas. In the latter case it is usually purulent and almost always fatal; but excluding those cases which occur in the course of enteric fever and are due to rupture of an ulcer, some of the others are apparently rather of toxic than actual microbic nature. Rheumatic peritonitis is accepted as an entity by some authorities; Oettinger,[1] indeed, describes two forms, the one being primary and preceding the arthritis, and the other secondary and following about the sixth to the ninth day, though both are rare. But its very existence is disputed by others, Widal[2] amongst them expressing doubts in spite of published cases. As Allchin[3] says: "On general grounds a rheumatic peritonitis would appear to be highly probable, since inflammation of the serous membranes of the joints and of the pericardium are among the most frequent 'terms' of the 'rheumatic series.'" And after excluding all doubtful cases there still remain some in which a peritonitis of rapid onset, transient duration, and equally rapid disappearance occurs in association with well-marked arthritis and other accepted rheumatic phenomena; and such cases seemed to justify the assumption. In the above case it is likely that the symptoms were due to irritation of the membrane by the toxin, which was virulent and abundant enough to produce the very severe constitutional effects observed.

The next case was in many respects similar in onset, though more severe in its sequel.

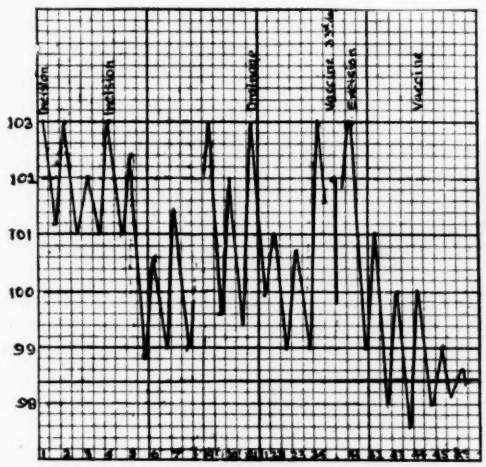
CASE 2.—A girl, aged 15 years, was admitted to hospital in December 1907, with pain in the right hip. She had been ailing for four days, and was looking very ill, with high fever (temperature 103° F., pulse 124) and heavy sweating, and suffering intensely. On the previous day she had developed a rash all over the body, uniform in distribution and bright red in colour, and the tongue had a "strawberry" appearance. This disappeared in another 24 hours and was followed by copious desquamation. On examination of her limbs it was found that movements produced no exact pain, but there was an indefinite area of tenderness over the hip, with nothing else of note. A provisional diagnosis of osteomyelitis of the head of the femur was given.

The girl was anæsthetised, and an incision was made over the region of the trochanter; but no evidence of suppuration or even of inflammation appeared. A deep stab incision was then made into the joint, and though no purulent fluid was observed, a cultivation from the knife showed a pure growth of staphylococcus aureus. Thereafter the limb was put in extension and the pain subsided somewhat. A day or two later the pain shifted to the knee of the same side, and the joint was distended with effusion which lasted for a few days. Afterwards the ankle on the same side, and the knee and ankle of the opposite side, became affected in the same way, one after the other. On the eighteenth day, however, the old pain reappeared in the right hip-joint, and the signs of arthritis became quite definite. The fever, which had been irregular till then, now became more constant, and the joint showed swelling both in front and around the trochanter. A free incision was made and a drainage tube was inserted into the joint cavity. For a time this acted well, but the discharge never got away freely enough, so that it became necessary to excise the head of the femur and curette out the acetabulum. It was then found that by that time (44 days from the onset of the attack) the cartilage of the upper and posterior part of the head of the femur had become eroded, while the superficial part of the epiphyseal cancellous bone beneath this area was necrotic, the cartilage of the acetabulum also being eroded to a similar extent and the ligamentum teres being quite destroyed. Thereafter the wound was

drained with comparative ease, extension being applied to prevent undue displacement of the limb on the pelvis, and the girl's condition became greatly improved.

A vaccine had been prepared by Dr. J. Miller from a culture of the discharge from the wound, and several doses of this were given at intervals of ten days or so. The first coincided more or less with the last operation, and it may be that it helped in the general improvement which started at this time. Owing to Dr. Miller's illness the examination of the opsonic index was interrupted, so that it is difficult to apportion the benefit of the vaccine. Later on, however, a pain appeared in her back, with tenderness on pressure, accompanied by a little rise of temperature, on which another (the fourth) injection of vaccine was given. This was followed by complete relief and should be given the credit of it. The wound gradually closed, and after continuing the extension for

FIG. 1.



CASE 2.—Shows effect on the temperature of operations and vaccines.

some time to allow the parts to consolidate a little, the patient was allowed up on crutches, and was dismissed well to the country home. During her illness the heart sounds were normal throughout, and there were no symptoms of cardiac lesions.

Investigation as to the primary focus of this infection was doubtful. There was no sore-throat nor pre-existing disease, but the tonsils were slightly enlarged and the teeth were in a shocking septic condition; the head also was covered with an eczematous eruption due to pediculosis. In all probability the source must be looked for in the teeth, especially as there was a slight thickening of the submaxillary glands, indicating irritation of some duration. No history of injury could be obtained, and the girl, who was not very intelligent and rather hysterical, could give no information on the subject.

In both of these cases the early symptoms had a resemblance to scarlet fever with joint complications, and in view of the danger to other children in the wards further consultation with colleagues with a wide fever hospital experience was asked, and scarlet fever was definitely excluded. The symptoms, moreover, were much more severe than are usually met with in scarlet fever unless of a virulent type. The questions of scarlatiniform rashes connected with acute inflammatory diseases and the administration of drugs, scarlet fever complicated by unusual symptoms, and the different conditions spoken of as "surgical scarlatina" have attracted a good deal of attention, but are too wide for discussion here. The rash in Case 1 was almost certainly induced by the salicylate exercising its effect on a body already abundantly toxic and producing no specific benefit on the subject. According to Morrow [4] this particular form of rash is unusual, but others are common enough as a result of exhibiting salicin and its compounds either by the mouth or on the surface of the skin. In Case 2 the rash was evidently a toxic one, corresponding in its nature very much to the first, but originating with the infective organisms.

The next case also presented appearances similar to the first two.

CASE 3.—A girl, aged seven years, was sent in to hospital as a case of osteomyelitis in February, 1908, with great pain down the left thigh, and tenderness on pressure, accompanied by fever and rigors. She had been suffering five days, and accounted for it by saying she had fallen off a swing some time before and had hurt her leg, which remained painful, however, for a very short time. The pain on admission was quite unlocalisable, but the tenderness seemed to be rather over the outside of the thigh. Movements of the hip and knee did not appreciably alter the pain, nor did pressure about the joints elicit complaint. The skin was not red and there was no œdema, but there seemed to be a little enlargement towards the middle third of the femur. And as this was the place always pointed to as the chief seat of pain, an incision was made down to the bone and a small trephine opening was made into the medulla; but no thickening of the periosteum or other structures was found, no pus was evacuated, and a cultivation from that region proved to be sterile. On the suspicion of the hip-joint being inflamed extension was applied to the leg.

The temperature fell a little after this, but still remained febrile; and on the ninth day of illness the pain in the knee was distinctly elicited by moving the hip, and there was tenderness on pressing in front of the joint. Next morning under chloroform the joint was aspirated, and a small quantity of sero-purulent fluid was removed, a cultivation of which gave a pure growth of staphylococcus aureus. The temperature fell for a day or two, but rose slightly as a pain appeared in the right shoulder. This disappeared, to be followed by a pain in the left wrist. By the thirteenth day there was a little suppuration of the original wound in the leg, with apparently some periostitis which gave rise to higher temperature for a few days; this probably arose from the patient passing urine in bed and thus contaminating the dressings and wound. Meanwhile, the hip and other joints had recovered almost completely, though a fresh pain arose in the right ankle, lasting for a day or so, but unaccompanied by fever. After the third week there was little further rise of temperature, and the wound healed up in the ordinary course. But there was still a little fulness of the right hip-joint, though no pain or tenderness.

About the end of the sixth week the extension weight was taken off the leg, but this was followed by a relapse characterised by a sharp rise of temperature, pain in the hip, and swelling about the joint, and the limb was found in the adducted and inwardly rotated position. The extension was renewed with gradually increasing weights until the limb was brought into proper position, and as the swelling still remained the joint was again aspirated, when a quantity of sero-purulent fluid was removed (giving on culture a pure growth of staphylococcus aureus). Thereafter the case progressed favourably, as before and after a further aspiration the synovitis subsided. But there was a considerable amount of fulness around the hip, and once or twice there was a little rise of temperature. An X ray stereogram taken at this time showed (*a*) an area of atrophy beneath the ossifying centre of the great trochanter, and (*b*) an irregular roughness of part of the head and neck, with (*c*) a general but slight atrophy (transparency) of the whole upper end of the bone when compared with the sound limb. Accordingly in May, on the suspicion of an abscess forming, an incision was made posterior to the great trochanter and a gouge was inserted into the area below it. The tissue removed seemed healthy, however, though rather wanting in cellular elements, somewhat resembling the condition of bone seen in periostitis albuminosa.[5] The soft tissues were not specially œdematous, and the joint which was tapped was not distended at all. The wounds were drained with iodoform gauze for a few days, after which they were allowed to heal up, the temperature meanwhile remaining about normal and the child's general condition excellent.

An examination of the possible sources of origin of this disease was quite inconclusive. The teeth were all sound and there was no history of intestinal or pulmonary ailment previously. The tonsils were certainly enlarged, prominent, and slightly cryptous, and the post-nasal adenoid tissue was rather well marked, but this was not obtrusive and was only discovered on minute examination. Nevertheless, it is probable that the site of entrance in this case may be looked for in the tonsillar tissue.

The diagnosis of these three cases in the earlier stages calls for special attention. All three showed a considerable resemblance to rheumatic fever: the sudden onset with high temperature and profuse sweating, the migratory tendency of the articular pains, with absence of pre-existing foci of infection, are characteristic of that disease. But there was an absence of redness and glaziness about the joints; the sour smell so commonly noticed in acute rheumatism was wanting in spite of the amount of perspiration; and even after careful examination no signs were observed of cardiac lesions; while rigors, which are unusual in rheumatism, occurred in all these cases. Further, the administration of salicylate, when it was used, produced no appreciable effect on the pains or temperature; and, though it would be idle to dogmatise on the subject [6] until further light is thrown on the organisms causing rheumatic fever, this absence of reaction to salicylate is at least very suggestive.[7] Moreover, young children are comparatively little subject to primary inflammation of joints; and even rheumatic fever, which is common enough in children, expends its virulence on the heart, lungs, or nervous system rather than on the joints, at least in much greater proportion than in adults.

Suppuration, too, in true rheumatism is very rare,[8] and according to some is practically unknown.[7] The pleurisy which sometimes complicates the disease usually causes a dry thickening,[9] and when empyema is found it is generally due to contamination with other microbes through the lungs; and even in cases of severe endocarditis with vegetations on the cardiac valves from which living organisms can be cultivated,[10] pyogenic foci are not found elsewhere as a result of its spread; on the contrary, these do give rise to nodules of cell infiltration and proliferation of the fibrous tissue throughout the body, especially in the subcutaneous tissues.[11] When suppuration does take place in the joints or elsewhere it is

due either to a mixed infection,[12] originating in the mouth, nose, tonsils, or intestinal tract, or it occurs in one of the pseudo-rheumatic diseases, as Widal classes them, and what was formerly described as "malignant rheumatism" was really most commonly osteomyelitis with joint involvement. In the cases under consideration the detection of the staphylococcus aureus at once negatived the idea of pure rheumatism, though at first it gave little further information.

As an example of rheumatic fever complicated by a mixed infection the following case may be cited.

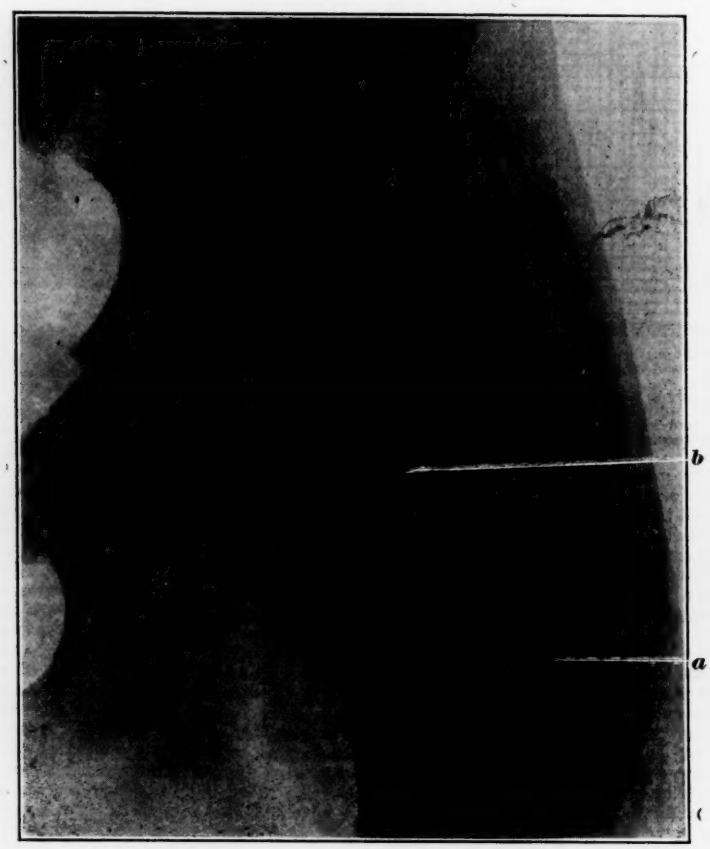
CASE 4.—A girl, aged 13 years, was admitted to hospital in February, 1908, with swelling of the right leg and knee-joint, tenderness on pressure and extreme pain on movement, accompanied by fever and great prostration. Some weeks before the right knee had become suddenly painful and swollen, and the patient felt ill and was feverish. This was diagnosed as acute rheumatism and treated with salicylates. The inflammation gradually subsided in the joint, only to appear in several of the other joints—viz., the right and left ankles, left knee, and shoulders. When those joints had partially recovered the right knee again became affected and remained painful and swollen in spite of treatment. The medical man attending her remarked that the salicylates had little effect on the pain or temperature. During the last few days the leg became more acutely inflamed, with swelling and œdema of the whole limb, but without great redness of the skin. The girl's general condition also became much worse, and she was removed to hospital in the condition noted above, with a temperature of 103° F., and signs of extensive effusion about the knee.

Under anæsthesia the limb was cleansed and incisions were made into the knee at both sides. A large abscess was encountered lying over the patella, burrowing widely in the subcutaneous structures, and communicating directly with the joint, and from there spreading high up beneath the muscles, but no indication was found of implication of the bones. The pus was examined bacteriologically and gave a pure culture of staphylococcus citreus. Sufficient counter-openings were made to ensure drainage, and the cavities were flushed out with saline solution. The patient recovered from the anæsthetic, but during the afternoon she was seized with a sudden syncopal attack accompanied by an acute pain in the right side of the chest, and died almost at once.

Owing to the short period of her stay in hospital and the distance in the country of her people's home, it was difficult to get further particulars of her illness.

In the first three cases there was evidence also of osteomyelitis strong enough to justify the operations immediately undertaken. There were fever with high temperature, rapid pulse, rigors, sweating, and profound illness, in one instance actually typhoid in character. In addition there was pain in the region of the hip, vague in locality, but aching and persistent in character, and tenderness on pressure about the upper part of the thigh. But there was no evidence of arthritis at first either from thumping on the heels, from flexing or rotating the limb, or by distension of the joint with effusion. Further, in only two cases was there swelling or œdema, and in each it was rather disconcerting to find that beneath the [tumefactions presumed to lie over an area of osteomyelitis no such condition was found, and ultimately the actual foci of inflammation were found at some distance away.

FIG. 2.



CASE 3.—Shows (*a*) area of atrophy below great trochanter, and (*b*) at the head and neck.

Ever since Chassaignac's[13] observations on the association of the diseases of joints with osteomyelitis, arthritis as a result of bone disease in the vicinity of joints has been a well-recognised event; and this has been greatly illumined by the more recent work of T. Smith,[14] Volkmann,[15] Schede,[16] Müller,[17] Lexer,[18] and others.[19] And even coxitis from osteomyelitis at the upper end of the femur has attracted a considerable literature of its own. The reason of this distinction is, of course, the deep situation of the joint, which causes a variation in the physical signs of such inflammations compared with arthritis elsewhere in the body, thus producing a special symptom-complex for itself.

The most extensive records of this condition are those of

von Bruns and Honsell,[20] who reported 106 cases of their own, and of Guyot,[21] who has collected 54 others, including some of Lannelongue's[22] and Macnamara's[23]; but further contributions have been made by Jordan,[24] Pick,[25] and others,[26] making about 200 cases in all. Those papers will well repay perusal, but an excellent *résumé* is to be found in the German "System of Practical Surgery."[27]

It has been accepted by most of those surgeons that disease of the upper part of the femur above the level of the lesser trochanter, especially when it occurs in young children, should be considered for clinical purposes as "epiphyseal" in the broader sense of the term; partly on developmental grounds, as the head, neck, and both trochanters occupy at first only one cartilaginous epiphysis which is not completely differentiated at a fairly late stage of growth; and partly because the head, neck, and base of the trochanters all lie practically within the joint capsule. Now osteomyelitis of the epiphysis often remains circumscribed in certain foci for a considerably longer time than in the shafts; and it is hindered more or less by the epiphyseal cartilage from spreading beyond the junction lines; thus extension takes place where resistance is weakest—namely, into the joint, where it sets up arthritis, or along the bone beneath the periosteum, ultimately forming an abscess on breaking through. Inflammation of the true epiphysis (the head) alone is not common, and when it does take place it implies early invasion of the joint. But the head is often involved secondarily by extension from the neck or trochanter, or by its surface through suppuration in the joint cavity. In either case the ligamentum teres usually necroses early. The acetabular surface also becomes eroded; but it should be remembered that the disease may start in the pelvic bones, generally about the Y-cartilage, as indicated in a series of cases reported by Bardenheuer.[28] The osteomyelitis is more often followed by absorption of the bone than by thickening, and this predisposes to spontaneous fracture or dislocation, or to coxa vara and other late changes. Actual sequestra are not usually formed, but atrophic disintegration is more general, though occasionally the whole head is separated at the epiphyseal line. The accompanying arthritis varies from a mild catarrh to virulent purulent forms effecting widespread disorganisation. And the results vary in proportion, from complete restitution to firm ankylosis on the one hand, or destruction of the joint on the other.

From an analysis of the cases referred to the constitutional symptoms are found to be fairly uniform: sudden onset, with high temperature, rigors, headache, sometimes delirium, and occasionally a typhoid condition even at an early stage. While the local signs are given as pain referred to the hip or knee or even down the leg; tenderness on pressing on the trochanter or heel or at the base of Scarpa's triangle; muscular spasm fixing the joint, adduction and inward rotation of the limb, with swelling from œdema, abscess formation or distension of the joint, and redness or dilatation of the venules of the skin. Widal[29] says: "The intensity of the fever, the typhoid state of the patient, and the tumefaction and fluctuation around the region of the hip are sufficient to ensure of a rapid diagnosis." But it is just in the physical signs that the difficulty lies. Of all von Bruns's cases few were seen by him before the third week, and of these only one was noted as being without swelling. And in Guyot's, though he quotes several seen within the first 3–6 days, there was usually enough swelling or redness to suggest the nature of the disease; further, movement of the joint gave rise to pain and spasm in most of these, though in the absence of synovitis it is hard to explain why it should do so. In the "foudroyant" cases, however, the local signs were so overshadowed by the constitutional disturbance that the affection of the hip was lighted on only by accident. Von Bruns observes that the disease occasionally begins with a multiple arthritis, the inflammation subsiding spontaneously in all the joints but one, as in some of our cases, and he quotes four cases of his own in which that happened. At other times the disease subsides spontaneously only to break out again acutely in a few weeks or later.

From this it will be seen that diagnosis in the earliest stage is by no means so easy unless the condition is suspected and sought for. In the later stages the arthritic effusion or abscess formation gives clear indication of the state of the parts. In the cases which subside, however, it is only by a process of exclusion that they can be properly diagnosed from primary arthritis of other origin. By examination with X rays, however, not only can the foci of disintegration often be detected when they have been well established, but also alterations in shape resulting from the atrophy. As a rule, too, there seems to be a general translucency of the whole end of the bone, indicating a certain degree of porosis.

Prognosis in these cases is grave. The early stage is one of extreme danger from the liability of pyæmia following. Indeed, Kraske[30] maintains that osteomyelitis is no less than a form of pyæmia, and in this he has several supporters, but Pick[31] objects that the progress of osteomyelitis is so different from what we understand by pyæmia that this assertion cannot hold good. In any case, suppuration with disorganisation of the joint or abscess formation is the rule. And even if the attack should subside there is always a chance of recrudescence. In the later stages there are often deformity, spontaneous dislocation, and usually shortening with or without ankylosis or contractures. The mortality is high; von Bruns's cases, it is true, show only 15 deaths in 106, while Guyot, who by a strange misreading assumed that von Bruns related to chronic cases only, and therefore dismissed his statistics as foreign to his subject, records a mortality of 60 per cent., and of the 11 cases of Sir T. Smith 8 died.

But an examination of the details shows that the results vary with the treatment, and the same lesson is to be learned in all. When early operation and drainage are carried out the mortality is low and in some cases the disease is practically aborted; and when this is delayed there is usually abscess or even pyæmia, and in any case pronounced alteration in the structure and function of the joint. This entails an early recognition of the disease.

The following cases of arthritis arising from osteomyelitis in the vicinity of joints show the symptoms as they appear in typical cases where the diagnosis presents no great difficulty.

CASE 5.—A girl, aged 5 months, was admitted in February, 1908, with acute inflammation about the left shoulder. Four days before the mother had noticed that the shoulder was swollen a little; it was evidently painful, and she could not touch the arm without causing the child to cry. Three weeks previous to this the child had measles, from which she had recovered, except for a muco-purulent discharge from the left ear, which started about that time and was still continuing in hospital. On admission the child was seen to be very ill, pale, and highly fevered. The shoulder-joint was swollen, red, and fluctuant, but the discolouration and œdema did not extend down the arm. Movement of any degree obviously caused severe pain. There was no rash on the body. On the evening of admission the joint was incised in front and behind, and a tube was inserted between the openings, a large quantity of pus being evacuated from the joint cavity and from the head of the humerus (giving a culture of streptococcus). After the operation the baby showed no improvement; the temperature rose slowly, and ultimately on the following evening it reached 109·4° F., when the child died.

A much more fortunate case was the following.

CASE 6.—A boy, aged 11 months, was admitted in March, 1908, with swelling of the left shoulder, extreme pain on pressure at the head of the humerus, and high fever (temperature over 103° F.; pulse 120). The night before admission the mother had noticed that the child cried whenever the shoulder was touched or the arm was moved in the slightest degree, and he held the limb close to the side. There was no history of previous illness or injury, and the only focus of irritation discovered was a small pustule on the back of the left wrist of a few days' standing. On the day of admission an incision was made over the head of the humerus, and a small trephine was inserted into the cancellous tissue. No pus was evacuated, but the tissues were all highly vascular. The effect of the operation was rapid and striking: within 36 hours the temperature fell steadily to normal and remained thus to the end. The opening discharged a little serous fluid, which never reached a purulent condition and quickly healed up. The child left hospital very well, with the wound almost closed, and with free movement of the joint in the course of 10 days. A couple of months later the child was reported to be in excellent health.

The difference between these two cases is very striking, and the temperature charts show a remarkable contrast, but the explanation is obvious. On the one hand, a baby already disabled by measles and otitis is attacked with acute osteomyelitis and operated on after four days; on the other, a healthy child is attacked by the same disease, but observed and treated within 24 hours of the onset of the symptoms. In the second case the disease was evidently aborted, and the synovitis never got to the stage of suppuration.

CASE 7.—A girl, aged 6 years, was admitted to hospital with pain and swelling of the right elbow, and also with suppuration from the umbilicus, and a considerable degree of fever. Three weeks before, the child, who had always enjoyed the best of health, fell and bruised her elbow, but this did not cause much pain, nor apparently did it call for any special attention. A week later she was seized with a sudden illness, with sickness and vomiting, and diarrhœa, and after three days with suppuration from the umbilicus, the details of which need not be fully entered into here. But a few days after the right elbow began to swell and become painful. On admission—a week after the onset of the joint trouble—the elbow was swollen, hot and tender on pressure or

movement, and fixed by muscular spasm at about a right angle. There was considerable effusion into the joint, but no striking thickening of the ends of the bones. On the following day the joint was aspirated and found to contain fairly thick pus, so an incision was made and an ounce or so of pus was let out. On examination for the source of the arthritis an area of necrosis the size of a cherry-stone was exposed in the olecranon, and this was curetted out. A tube was placed in the joint, and Bier's band was applied for eight to ten hours at a time. The abdominal suppuration was found to be very extensive and connected with some intestinal suppuration. The child made little progress in hospital and was taken home in rather a precarious condition.

In the next case the relationship to the bone disease was still more obvious.

CASE 8.—A youth, aged 19 years, was admitted to hospital in January, 1908, with great pain and tenderness of the left leg, swelling and œdema from the foot up to the knee, and effusion in the ankle-joint, the skin over this part being red, tense, and glazed, and ill with fever, with a temperature of 102° F. This had begun with a slight bruise to his leg in the course of his work a week before admission, which at first did not cause him inconvenience, but next day produced stiffness and pain of the foot and ankle. After four days this had progressed so much that the limb became swollen and very painful, and the patient began to have rigors. As soon as possible after admission incisions were made into the soft tissues, and the tibia, which was widely necrotic, was freely opened. The ankle-joint was found to be suppurating, and as the inflammation was spreading to the foot, after a little delay to obtain parental authority, the leg was amputated. The boy made an excellent recovery.

Another interesting point in this patient's case is the fact that workmen's compensation was claimed and obtained from the insurance company. The question of such claims for osteomyelitis resulting from slight traumatisms is of importance in view of the wide distribution of liability created by recent enactments. According to Bloodgood [32] it has been settled in Germany that if the symptoms of osteomyelitis develop within 14 days after an injury it is just to assume that the trauma is a definite etiological factor, and practitioners in this country must be prepared for further claims of the sort requiring a medical report.

The pathology of juxta-epiphyseal osteomyelitis has been further elucidated by the researches and experiments of Lexer.[33] By his injections of the bones of young children he shows that there is a threefold blood-supply at the ends of the long bones, all of which terminate in fine capillaries which are only too liable to be the seat of microbic embolism. These blood-vessels are derived from (*a*) the main diaphyseal ("nutrient") artery as terminal branches near the epiphyseal cartilage; (*b*) from numerous metaphyseal branches entering the bone directly from twigs of the articular arteries at both sides of the epiphyseal line; and (*c*) from the epiphyseal branches also arising from the articular arteries by several branches and nourishing the articular surfaces. The second group is the most important, as the vessels are found supplying the areas most frequently the seat of pyogenic or tubercular infection. The older the bone the finer relatively become the arterioles, though all three groups can be demonstrated up to the period of full ossification. But at the same time the arterial supply of the joint apparatus becomes much more developed. These anatomical variations explain, as Bloodgood [34] points out, why bone lesions are most common in infancy and youth, while joint lesions are more frequent in the adult.

A contrast to those cases may be seen in the next case.

CASE 9.—A girl, aged 18 years, was admitted to hospital with swelling of the leg around and below the knee of eight days' duration, resulting from the penetration of a needle into the skin about the level of the tubercle of the tibia 11 days before. On the supposition that the knee-joint was infected an aspirating needle was inserted at the outer side, far away from the swelling, but it withdrew only clear and sterile fluid. On incising the soft parts over the swelling a large abscess was evacuated reaching down to the surface of the tibia, which was already necrotic and permeated with pus. This progressed so badly that the joint eventually became invaded, and ultimately amputation of the thigh was required. After a long convalescence the girl made a good recovery. Here the disease started from the outside, beginning as a cellulitis, next continuing as periostitis, then true osteomyelitis, which at last burst into the joint.

The following case presented more the features of gonorrhœal arthritis from the insidious beginning, the persistence of the subacute stage with feeble attempts at healing, and the stiffness around the joint without wide-spread suppuration in the tissues. The possibility of infection was gone into carefully by discreet inquiries of both wife and husband without throwing any positive light on the case; no discharge from the genital organs was ever detected, and examination of the fluids from the wound never revealed the presence of gonooocci. The resemblance to acute rheumatism was sufficient to admit of her being treated at first for that disease; but the symptoms ultimately resolved themselves into a uni-articular arthritis with some slight temporary synovitis of other joints.

CASE 10.—A married woman, aged 27 years, was admitted in October, 1907, with synovitis of the left ankle. She had just landed with her husband from a transatlantic voyage, during which her ankle had become much worse after being painful for five weeks. The toe of the right foot had been swollen and tender a week before admission, but had recovered in a few days. She was ill and feverish, with pain in the joint and general redness all round it. She was a pale, thin, and rather nervous woman, never very strong, but not subject to any special ailments. There had been no history of any previous inflammatory trouble to account for a primary focus of infection. Under fomentation the synovitis subsided, but meanwhile there was a slight attack of the left wrist lasting for a day or two. The temperature ranged from 97° to 100° F. She was transferred to a medical ward, where she was treated with anti-rheumatic remedies; but after a few days she was sent back with distinct swelling about the joint, redness and œdema, and signs of threatening cellulitis, the temperature being 103° F. The joint was opened freely, and drained of a sero-purulent fluid, which gave a pure culture of streptococcus pyogenes. Thereafter drainage was continued, and a Bier's band was applied daily for several weeks, at first for 22 hours, but latterly for two hours a day. Ultimately (in ten weeks) the discharge dried up, and the patient was dismissed with the foot in a plaster casing, the joint being partially ankylosed.

In this case the application of Bier's bandage did not seem to influence the progress of matters much, either in respect of the time of healing or of the character of the discharge, though it is possible that it may yet have a conservative effect in the ultimate function of the limb. This negative result with streptococcic infections is quite in accordance with the experience of Bier [35] and others.

In true gonorrhœal arthritis the temperature, as a rule, is but little raised, and suppuration is generally scanty in amount. Though it often begins as a multiple arthritis it usually settles in one joint ultimately, for preference in the knee (about 75 per cent.), while the ankle is less frequently attacked (about 20 per cent.). It is also very chronic in character and does not yield to salicylate treatment. And the disease, though beginning with fluid effusion, seems to expend itself in the formation of fibrous tissue, causing thickening of the synovial membrane and the periarticular structures. Indeed, König [36] says that this is a symptom peculiar to no other disease of the kind, and that ankylosis occurring in a short time should always lead to the suspicion of gonorrhœa as a source of the arthritis. The absence of gonococci and the finding of streptococci in this case does not, of course, absolutely negative its gonorrhœal origin; but without confirmatory signs there is no justification for this assumption, and the disease must remain meanwhile unexplained.

Another case of mono-arthritis occurred.

CASE 11.—A boy, aged 12 years, was admitted to hospital in November, 1907, with swelling of the right knee, pain and limitation of movement, and effusion sufficient to cause floating of the patella. His temperature was 103° F., pulse 110, and respirations 40. 12 days before he had been attacked with pneumonia implicating the left lung, and a distinct crisis had occurred six days after. At the time of his admission the lung was still partially consolidated, but gave signs of clearing from day to day. There were abundant pneumococci in the sputum. The knee was treated by fixation in splints and warm fomentations were applied to relieve the pain; but as it was considered inadvisable to open the joint it was aspirated. The pathologist reported that the fluid, which was sero-purulent, contained streptococcus in pure culture. The synovitis subsided in the course of a few days without further treatment than the application of Bier's bandage for a time. Shortly afterwards the boy complained of a tender spot at the inner side of the thigh just about the insertion of the adductor magnus. As the temperature tended to rise again at this time (from 98°–102°) an incision was made down to the bone, but no pus was found, and cultivation from the vicinity proved sterile. Notwithstanding this, after a few days of relief from pain and fever, the pain and swelling occurred again almost at the same spot. This time a drachm or so of pus was evacuated, giving a growth of streptococcus and staphylococcus on culture; but as the bone showed no sign of involvement it was not opened. The general symptoms again improved and the abscess soon closed up. But the temperature once more rose with irregular intermissions, and the cough reappeared to a certain extent. An examination of the lung showed a considerable amount of effusion in the left pleural cavity. This was withdrawn and a tube was inserted, a piece of the ninth rib being removed for the purpose. After a day or two the evacuation was aided by the use of Bier's cupping glasses applied for an aggregate time of half an hour a day. After several weeks the discharge gradually dried up, and the patient was dismissed well to a home in the country.

This might be regarded as a pneumonic arthritis had not the bacteriological report rendered it doubtful; and the negative result was confirmed by the absence of pneumococci in the periostitic fluid. Now that that the true nature of pneumonia is recognised quite a large number of cases of pneumococcic arthritis has been collected; and a series of them has been cited and discussed by Cave,[37] who further refers to several instances of primary arthritis of pneumonic origin, which either preceded an attack of pneumonia as

reported by Pasteur and Courtland,[38] or even were never followed by any disease of the lungs at all as recorded by Griffon,[39] and Widal and Meslay.[40] In these the diagnosis was made on the bacteriological findings. The results, for the most part, are said to be very grave, both as regards mortality and, in non-fatal cases, destruction of the joints. In this case possibly the synovitis should be looked upon as an accidental inflammation set up by a mixed infection, doubtless originating in the lungs, and induced by the predisposition caused by the attack of pneumonia. Were all cases of synovitis associated with pneumonia subjected to a bacterial examination, probably many would be found to be of this nature.

The next is a case of synovitis without suppuration occurring in the course of an acute infection.

CASE 12.—A boy, aged 13 years, was recovering from osteomyelitis (from staphylococcus aureus) of both tibiæ, followed by abscesses on the scalp and the buttock, doubtless pyæmic in nature. When the acute stages had all subsided the sterno-clavicular joint one day became swollen and tender, while the temperature rose a little. The synovitis never went on to suppuration, but subsided in a few days without any special treatment of any kind. Whether micro-organisms were present in the joint or not was never determined, as circumstances did not warrant exploration with the aspirator.

This synovitis corresponds with that seen in the previous cases (Nos. 2, 3, and 4) occurring in the earlier parts of the diseases. Assuming that it is actually caused by micro-organisms and not by toxins only in the joint, it is still easy to see how likely this is to occur if microbes are circulating in the blood. For Chvostek [41] shows by his experiments that organisms often may be recovered from the synovial fluids a few hours after they have been injected into the blood stream, and that without any appearance of damage to the synovial membrane either on inspection or by microscopical examination. And Hofbauer [42] points out that this exudation is specially determined there by the exceedingly rich blood-supply of the synovial fringes. Should the joint be injured in any way it is still more natural to expect synovitis. Indeed, it is remarkable how seldom in the aggregate that synovitis occurs as a complication of acute diseases. The same rich blood-supply may be assumed to help in the elimination of such microbes, though absorption from joints is always proportionately much slower than effusion.

For comparison with the others a case of frankly septic arthritis from direct infection may be adduced.

CASE 13.—A man, aged 46 years, was admitted in October, 1907, with suppurating arthritis of the left knee. 16 days before he had cut into the joint with an adze, and this accident was followed in three days by pain, swelling, and effusion of a yellowish fluid from the opening. At the time of admission he was suffering from pyrexia, with rigors, sweats, delirium at night, and all the signs of acute toxæmia. The knee was much swollen, œdematous, and tender on pressure, the joint was distended with fluid, and the patella was "floating." There was a trickle of sero-purulent fluid (yielding staphylococcus aureus on culture) exuding from a small wound at the side of the patella.

The joint was widely incised at both sides, and irrigated with saline solution. Several pockets of pus were found burrowing into the adjacent muscles and other tissues both in front and behind, and these were freely exposed and drained. After the tendency to bleed had stopped a Bier's bandage was applied daily, at first for 16 hours or so but later for less; but it did not appear to affect the local condition except by increasing the amount of effusion, while the general symptoms remained as before. The band therefore was left off after ten days or so, as it always caused some discomfort. These conditions remained without much change in spite of further exposure and drainage. And after about eight weeks there was so much destruction of the joint and its surrounding structures, with dislocation of the bones, starting pains and tenderness, accompanied by loss of flesh, nightly delirium, and other constitutional effects, that it was manifest that no more progress could be expected; accordingly the limb was amputated at the middle of the thigh. The wound healed well, but took a considerable time owing to suppuration from contiguity of various septic foci; and convalescence was also delayed by the presence of a large bed-sore which appeared in spite of careful nursing.

Why this case should be so malignant compared with the preceding ones is not at once clear, as the organisms were the same as in many of the others. The real explanation rests mainly on the mechanical difficulty of draining the knee-joint owing to its complicated shape and the tendency for pus to form pockets at the back. Flint [43] has collated the experience of a number of surgeons on septic infection of the knee, and from the 310 cases reported he has deduced the conclusions that penetrating wounds of the knee mostly become septic (about 60 per cent.), and in these the mortality is high (over 13 per cent.), and nearly all the non-fatal cases result in great functional disability. This being so, if the joint is to be opened and drained at all, the first operation should be radical and extreme, and probably the safest operation for virulent cases is to make an incision across the knee, dividing the patella in two and keeping the knee acutely flexed, so that the joint remains exposed and can be drained by packing in every corner, as recommended by many surgeons. Milder cases can, of course, be dealt with by less radical measures.

In many of the foregoing cases it will be seen that the source of infection is doubtful, for, with the exception of Cases 9 and 13, no special focus was definitely recognised. In some of them the buccal cavity was suspected, since it is now acknowledged to be the starting-point of many ailments, as has been well demonstrated by Hunter [44] and others.[45] But numerous other sources of inflammation have been reported in connexion with arthritis and osteomyelitis. Amongst those besides the various acute fevers, such as influenza,[46] enteric fever,[47] and those previously referred to, may be mentioned suppuration of the umbilical cord in infants,[48] puerperal discharges of various kinds from the mother,[49] bronchiectasis [50] and whooping-cough,[51] appendicitis,[52] dysentery [53] and other intestinal troubles, and cutaneous inflammations such as ulcers,[54] wounds,[55] vaccination,[56] and other eruptions. Fraenkel [57] has shown that bacteria are frequently disseminated and localised in the bone marrow during all acute infectious diseases, and that they may live there for weeks or months; and later, after a slight injury, excite advanced pathological changes which are quickly manifested clinically as local osteomyelitis. And this applies equally to accidental or mixed infections associated with those diseases. As Bloodgood [58] remarks, this explains the difficulty experienced in most cases of osteomyelitis in establishing an etiological factor of recent date, because the interval between the primary infectious disease and the local signs of inflammation is long. In only two of our cases (Nos. 3 and 8) were the traumatic influences marked enough to draw attention to them, in spite of keen investigation about them all. But as young children are so apt to get small injuries from tumbling about, it is almost certain that most had some traumatic origin. In the absence of injury, however, nerve influence alone is sufficient to induce a localised inflammation, and in the older patients this should not be overlooked. This is clearly evidenced by the experiences of Widal,[59] who observed arthritis in a limb affected by lead palsy when the other joints were free; and the experiments of Hermann [60] and Kasparek [61] show that arthritis may be artificially induced after an injection of toxic bacteria by cutting the nerve which supplies the joint observed.

For the purpose of diagnosis X rays are very valuable, and may reveal lesions which are unsuspected. They may also afford grounds for predicting subsequent shortening or deformity of the bones, and this, of course, aids prognosis.

Treatment of these acute forms of arthritis resolves itself into rest and relief of pressure: the first hindering further preventable trauma, and the second restricting the absorption of toxins into the general system, and this is, of course, carried out by the use of splints or extension. Further relief is obtained by aspiration, which in the mildest cases is sufficient. The employment of tubes for drainage is requisite in the pyogenic cases, for although it is objected that in sero-purulent conditions they are apt to induce fibrous thickening and subsequent ankylosis, in the severe cases this will take place at any rate. If drainage cannot be adequately maintained in this way part of the joint should be resected to prevent pocketing of pus, and this is specially called for in arthritis of the hip, when the head of the femur often requires excision. In the desperate cases an early amputation is sometimes the safest and most logical treatment.

Of the two newer aids to therapeutics—Bier's hyperæmia and Wright's opsonic vaccination—a certain amount of doubt still remains. Bier [62] speaks enthusiastically of the effect of hyperæmia on traumatic and other arthritis, and I had the opportunity a short time ago of seeing some of his successful results in Bonn. But my own experiences [63] of it, in joint diseases at least, have been disappointing; in six or seven cases there has been little improvement. But other surgeons [63] corroborate Bier's opinion by favourable reports of their own cases.

Of the opsonic treatment in acute disease it is still less easy to give an opinion, whatever its value may be in chronic conditions. It is permissible to attribute some improvement to it in Case 2, and I have seen some benefit in other cases—viz., septic spinal disease commencing with tuberculosis, and similar mixed infections, treated with cultures made from the

discharge. It is claimed with some justice that aspiration of an infective fluid causes a flow of serum rich in opsonins into the space evacuated, and also that Bier and Klapp's cupping glasses used in connexion with sinuses have a similar effect. But out of a series of papers on the opsonic treatment which has lately appeared [64] little light has been thrown on the application of it to acute conditions, and much wider experience is necessary before a definite judgment can be pronounced.

Bibliography.—1. Oettinger: Charcot's Traité de Médecine, vol. v., p. 533. 2. Widal: Brouardel's Traité de Médecine, vol. iii., p. 774. 3. Allchin: Allbutt's System of Medicine, vol. iii., p. 632. 4. Morrow: New Sydenham Society, vol. cxliii. 5. Poncet: Gazette Hebdomadaire, 1874, p. 133; Schlange: Archiv für Klinische Chirurgie, vol. xxxvi. 6. Mantle: Brit. Med. Jour., 1887, vol. i., p. 1381. 7. Widal: Loc. cit. 8. Schuchardt: Billroth and Lueke's Deutsche Chirurgie, vol. xxviii. (a), p. 292. 9. Church: Allbutt's System of Medicine, vol. iii. 10. Leyden: Medical Society, Berlin, 1894; Beattie: Brit. Med. Jour., 1906, vol. ii., p. 1781. 11. Cheadle: Allbutt's System of Medicine, vol. iii., p. 47. 12. Schuchardt: Loc. cit. 13. Chassaignac: Gazette Médicale, 1854, p. 505. 14. T. Smith: St. Bartholomew's Hospital Reports, vol. x., p. 191. 15. Volkmann: Driessen, Zentralblatt für Chirurgie, 1880, p. 673. 16. Schede: Mittheilungen aus der Berliner städtischen Krankenhauses in Friedrichshain, 1878. 17. Müller: Deutsche Zeitschrift für Chirugie, vol. xxi. 18. Lexer: Archiv für Klinische Chirurgie, vol. lvii., p. 879. 19. T. P. Pick: THE LANCET, 1894, vol. i., p. 1543; Cautley: THE LANCET, 1905, vol. i., p. 573; Garré: Beiträge zur Chirurgie, vol. x., p. 241. 20. Von Bruns and Honsell: Ibid., vol. xxiv., p. 41. 21. Guyot: Revue de Chirurgie, vol. xxix., p. 271. 22. Lannelongue: Bulletins et Mémoires de la Société de Chirurgie, vol. xiii., p 17. 23. Macnamara: Brit. Med. Jour., 1887, vol. ii., p. 13; 1888, vol. ii., p. 76. 24. Jordan: Beiträge zur Chirurgie, vol. vii., p. 493. 25. T. P. Pick: THE LANCET, 1894, vol. i., p. 1543. 26. G. A. Wright: THE LANCET, 1881, vol. ii., p. 127. 27. Bergmann, Bruns, and Mikulicz's Practische Chirurgie. 28. Bardenheuer: Archiv für Klinische Chirurgie, vol. xli. 29. Widal: Loc. cit. 30. Kraske: Archiv für Klinische Chirurgie, vol. xxxiv. 31. Pick: Loc. cit. 32. Bloodgood: Progressive Medicine, 1904, vol. iv., p. 205. 33. Lexer: Archiv für Klinische Chirurgie, vol. lxxi., p. 9; vol. lxxiii., p. 481. 34. Bloodgood: Loc. cit. 35. Bier: Hyperaemie als Heilmittel. 36. König: Deutsche Medicinische Wochenschrift, 1896, p. 751. 37. Cave: THE LANCET, 1901, vol. i., p. 82. 38. Pasteur and Courtland: THE LANCET, 1906, vol. i., p. 1747. 39. Griffon: Bulletin de la Société d'Anatomie, 1896. 40. Widal and Meslay: Bulletin de la Société Médicale des Hôpitaux, 1896. 41. Chvostek: Verhandlungen des XV. Kongresses für innere Medicin. 42. Hofbauer: Mittheilungen aus der Grenzgebieten der Medicin und Chirurgie, vol. iii., p. 71. 43. Flint: Annals of Surgery, 1905, p. 570. 44. William Hunter: Practitioner, 1900. 45. Cœurderoy: Thèse de Paris, 1900; Raffin: Thèse de Bordeaux, 1900. 46. Rogers: THE LANCET, 1905, vol. i., p. 501; Murrell: THE LANCET, 1903, vol. ii., p. 161; Franke: Mittheilungen aus der Grenzgebieten der Medicin und Chirurgie, vol. v., p. 321; H. Marsh: Brit. Med. Jour., 1906, vol. ii., p. 1627. 47. Lannelongue: Ostéomyélite de Croissance. 48. Braquehaye: Gazette Hebdomadaire de Médecine et Chirurgie, 1895; Koplick: American Journal of Medical Sciences, 1892. 49. Chipault: Bulletin de la Société d'Anatomie, 1890; Lamothe: Thèse de Paris, 1898; G. A. Wright: THE LANCET, 1902, vol. i., p. 1376; Koplick: Loc. cit. 50. Kidd and Symes-Thompson: THE LANCET, 1902, vol. i., p. 1376. 51. Braquehaye: Loc. cit. 52. Poynton: Medical Society of London, THE LANCET, 1900, vol. ii., p. 861. 53. Brault: Maladies des Pays Chauds, THE LANCET, Dec. 15th, 1900. 54. Charriezieux: Thèse de Bordeaux, 1896. 55. Lefort: Bulletin de la Société de Chirurgie, 1880. 56. Sollmann: Jahrbuch für Kinderheilkunde und physische Erziehung, 1895. 57. Fraenkel: Mittheilungen aus der Grenzgebieten der Medicin und Chirurgie, vol. xii., p. 419. 58. Bloodgood: Loc. cit. 59. Widal: THE LANCET, 1901, vol. i., p. 84. 60. Hermann: Annales de l'Institut Pasteur, 1891. 61. Kasparek: Wiener Medicinische Wochenschrift, April, 1895. 62. Bier: Zentralblatt für Chirurgie, 1906. 63. German Surgical Congress, 1906, Zentralblatt für Chirurgie, 1906. 64. A. E. Wright and others: Practitioner, May, 1908. 65. G. B. Buchanan: THE LANCET, 1908, vol. ii., p. 1430.

Glasgow.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—The following is the list of prizes awarded for the winter session, 1909–10. Systematic Anatomy: D. J. Flanagan, first prize (£2) and medal; G. E. Pepper, second prize (£1) and certificate. Descriptive Anatomy: W. I. Adams, first prize (£2) and medal; D. J. Flanagan, second prize (£1) and certificate. Practical Anatomy: First year: W. Morrow, first prize (£2) and medal; R. A. Austin, second prize (£1) and certificate. Second year: G. C. Sproule, first prize (£2) and medal; W. I. Adams and G. E. Pepper (equal), second prize (£1) and certificate. Practice of Medicine: J. T. Duncan, first prize (£2) and medal; T. M. Thomson, second prize (£1) and certificate. Surgery: J. T. Duncan first prize (£2) and medal; F. Warren, second prize (£1) and certificate. Midwifery: J. T. Duncan, first prize (£2) and medal; M. S. Moore, second prize (£1) and certificate. Physiology: J. D. Cherry, first prize (£2) and medal; A. F. Patterson, second prize (£1) and certificate. Chemistry: J. Lanigan, first prize (£2) and medal; L. E. Wigoder, second prize (£1) and certificate. Pathology: Vernon J. White, first prize (£2) and medal; T. T. Buckley, second prize (£1) and certificate. Physics: A Merrin, first prize (£2) and medal; L. E. Wigoder, second prize (£1) and certificate. The summer session commenced on April 4th.

A NEW METHOD OF TREATING ACUTE PHTHISIS BY THE ALTERNATE USE OF HUMAN AND BOVINE TUBERCULIN.[1]

BY H. WARREN CROWE, M.D. OXON.

VACCINE therapy as practised to-day is difficult. Whether inoculations are administered by the empirical method it is difficult, or under the control of the opsonic index it is also difficult—difficult not only in the technique but also in the interpretation. In phthisis it is probably more difficult than in any other disease caused by bacterial invasion, and the more active the disease the greater this difficulty.

If we are asked wherein the difficulty chiefly lies we should be candid in replying that it lies in the avoidance of doing harm.

It is impossible to disguise the fact that tuberculin may do harm. If after a dose of tuberculin a rise of temperature occurs, accompanied by malaise, increased sputum, increased physical signs, and a disproportionately quickened pulse, and lasting for a fortnight or even longer, one cannot deny that the inoculation may have done harm. Yet I venture to suggest that this result has not infrequently followed doses of T.R. even so small as 1/100,000th milligramme. I would go further and say that in active phthisis, with a rectal temperature ranging above 100° F., a further rise of temperature, commencing sooner or later and lasting a longer or a shorter time, is the most usual result of the smallest efficient dose of tuberculin. But if tuberculin does good in acute cases—and many will, I think, be found to bear witness to its value—and if it be granted that a rise of temperature usually results from small yet efficient doses of tuberculin, it follows that the rise of temperature is not necessarily an unfavourable symptom. Obviously the length of time that the rise is maintained is the determining factor in the result of the dose, whether it shall be for good or whether it shall be for ill.

An unprejudiced observer will readily acknowledge the good effect of a dose of tuberculin if it result in a rise of temperature lasting two or three days, followed by a fall to a point below the average range preceding the dose, and if then the temperature range remains at the lower level, whereas he will undoubtedly condemn as harmful treatment an inoculation which apparently causes a rise of temperature with accompanying discomfort lasting a fortnight or longer.

Now it is quite impossible in acute phthisis to anticipate the effect of any dose with certainty (with one exception which will shortly be stated). 1/100,000th milligramme T.R. may have no effect the first time, but if repeated even this minute dose may provoke a prolonged reaction. It is a usual experience when re-commencing inoculations with a minimal dose after a period of cessation, due possibly to the patient's intolerance—fancied or real—to find oneself faced at the onset by a prolonged and distressing reaction. And though it is quite conceivable that an increased vigour in the protective mechanism is the cause of the phenomenon, yet it is discouraging to the physician and terrifying to the patient and his friends. If now it were possible to devise a method whereby such an awkward reaction could be cut short tuberculin administration in acute phthisis would be shorn of half its terrors. Wright advocates a minimal dose being given if the "negative phase" be too prolonged—if, that is to say, the dose causing that phase has been too large—but this method does not always meet with success in phthisis, and if the reaction we wish to stop be caused by 1/100,000th milligramme, what conceivable dose must we employ to check it?

I have now to describe a method whereby a prolonged reaction can be cut short with almost absolute certainty—even an obvious overdose can be prevented from doing harm and may not infrequently be turned to good account.

It is maintained by some observers that there is a very real difference between the strain of tubercle bacilli grown from the human disease and that grown from the disease as found in cattle, the typus humanus and the typus bovinus; further, that human beings can be infected by either strain,

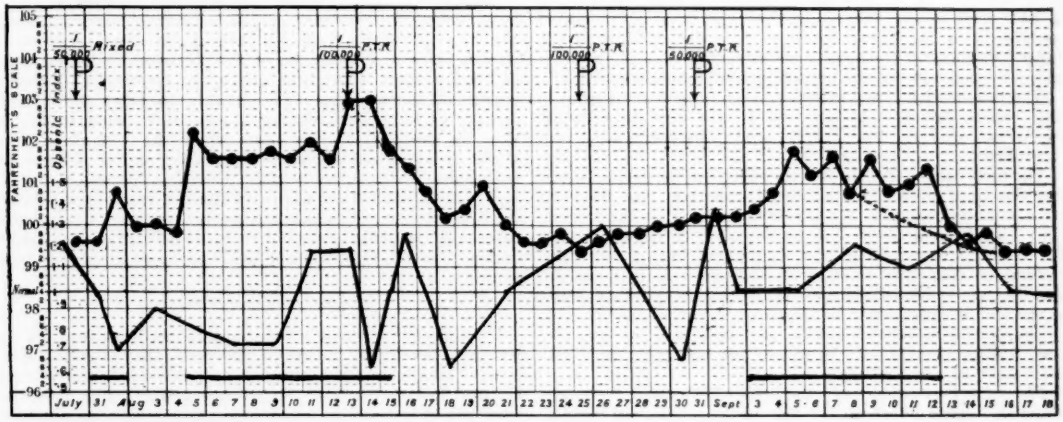
[1] The tuberculin referred to is T.R. and its bovine equivalent P.T.R. (from the German "Perlsucht" = Bovine tuberculosis).

cattle usually only by their own specific type. Further, that in using tuberculin in the human subject an attempt should be made to determine the origin of the infecting organism and the appropriate vaccine then given. If both types are present, as is said to occur commonly in phthisis, then a mixed tuberculin should be employed. As a refinement of this it has been suggested, again, that should reactions of marked intensity follow inoculations by a tuberculin of homologous type, the alternative or heterologous vaccine may be used with advantage. Dr. Nathan Raw advocates the "opposing vaccine" being always used, as he maintains that its curative power is greater, since it antagonises and neutralises the autogenous "tuberculin" formed

Since it is my belief, which I trust this paper will tend to justify, that the "cure" (as opposed to the "arrest") of the disease in its acute form is impossible without febrile reactions, and since the voluntary induction of a rise of temperature carries with it the responsibility for any harm which may result from such a rise being too prolonged, the great value of a reliable method for terminating at will such a "therapeutic tuberculin reaction" will be immediately apparent. I have, as far as possible, emphasised this interesting phenomenon, as upon its proper application rests the success of the method for the inoculation of acute phthisis now to be described.

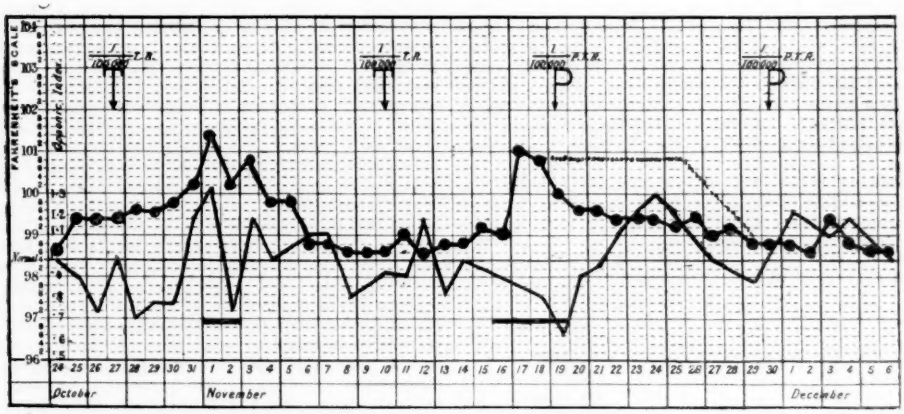
A start is made by an inoculation of 1/100,000th milli-

FIG. 1.



Inoculations are shown by the combined letter and arrow, the T in the sign indicating T.R., and the P., P.T.R. The first inoculation was a mixture of T.R. and P.T.R., hence the sign. The beaded line indicates the temperature. (In all the charts the temperature record represents the evening 9 P.M. temperature only—an excellent graphic method which I adopted after reading E. C. Hort's "Rational Immunisation in the Treatment of Pulmonary Tuberculosis.") The plain line shows the opsonic curve. Days of malaise, increased sputum, and physical signs are shown by broad horizontal base line. The dotted line suggests the probable course of the temperature had 1/100,000th milligramme T.R. been administered on Sept. 6th or 7th. In Fig. 2, on the other hand, the dotted line indicates probable temperature had 1/100,000th milligramme P.T.R. on Nov. 19th been omitted.

FIG. 2.



Same patient as in Fig. 1. Further progress of case.

at the lesion. I find it difficult to subscribe to this hypothesis.

Without entering further on the various methods in use, and the even more various hypotheses propounded in connexion therewith, I can speak unhesitatingly of the great value of using these two forms of tuberculin in an alternating fashion. Briefly, I have found that a prolonged reaction resulting from the use of either of them can be cut short by a dose of the other provided that there has been developed some degree of hypersensitiveness to the form of tuberculin which excites the reaction

gramme of either T.R. (or P.T.R. in the most acute cases, as it appears slightly less liable than the former to cause acute reactions). This dose is repeated and gradually increased once every 7 to 10 days until a definite febrile reaction is provoked, accompanied by signs of an exacerbation in the disease, malaise, &c. The reaction may not appear for three or even six days after an inoculation, hence the interval between the doses. This rise of temperature is allowed to continue until it seems to be steady at the higher level or until the physical condition of the patient causes alarm, when a dose of P.T.R., half the quantity of the exciting dose

of T.R. (but not as a rule less than 1/100,000th milligramme), is inoculated. The next day the temperature may remain up, but the day after at latest it will fall, and after a few days there will be found to be a definite improvement in the physical condition of the patient and also in the local lesion. This inhibitory dose is the exception above referred to. It is now advisable to rest for a time, say a fortnight or until the temperature has again risen, when the same dose of P.T.R. must be repeated and gradually increased, until for a second time a febrile reaction is induced, when it will be found that a dose of T.R. will now have the effect of cutting short the P.T.R. reaction.

Fig. 1.—Disregarding for the moment the opsonic curve, this chart shows so well a reaction accompanied by high temperature cut short by P.T.R. that I insert it here, although the exciting dose was a mixture of T.R. and P.T.R. I have found the same action of P.T.R. in other cases when I had used mixed tuberculin, but not invariably, and I ascribe it to the actual breed of tubercle bacillus in the lung. Stained by Spengler's method, this patient's sputum never showed any but the human type of tubercle bacillus.

The reason why I used mixed tuberculin is not material to this paper; suffice it to say that I have now discarded it in favour of T.R. and P.T.R. used separately as herein described.

The next dose of P.T.R. had no effect on the temperature, but the third dose, 1/50,000th milligramme, was followed by a definite reaction, though less acute than the former. Had I given a dose of T.R. on Sept. 6th or 7th I feel sure the reaction would have been limited to five or six days instead of ten. The most striking feature in this patient was the very remarkable improvement in the physical signs at the end of September as compared with the end of July. Improvement in general health one can obtain by open air, rest, feeding, and gentle exercise, but not such rapid improvement in physical signs.

Fig. 2.—Discussion of the opsonic curve is again reserved. This chart shows the same scheme of dosage continued. The patient is the same as in Fig. 1. A period of six weeks was allowed to pass after the last reaction before inoculations of tuberculin were resumed. During this "off time" the health improved, the temperature was but seldom above 99° F., the patient was walking daily, but the physical signs remained stationary. I have omitted, for the sake of clearness, certain doses of second organism vaccines, given sometimes with the tuberculin, sometimes alone. Their effect was difficult to adjudge, but, on the whole, the resulting tendency was to a lower range of temperature and less sputum. Microscopically there was to be seen a numerical reduction of the secondary organisms in the sputum. On Dec. 9th a third dose of bovine tuberculin (1/100,000th milligramme) was given and was followed by a distinct though mild reaction (highest evening temperature 100·2°). A certain hypersensitiveness had clearly developed as a result of the repeated inoculations with P.T.R.

The following notes of a somewhat more chronic case (evening temperature in reactions 101° F. maximum, at other times ranging between 98·6° and 100°) provide a more extended view of the treatment.

Date.	Dose.	Remarks.
1909.		
Sept. 3rd	1/100,000th milligramme P.T.R.	No reaction.
,, 8th	1/50,000th ,, ,,	Slight reaction.
,, 20th	1/100,000th ,, ,,	No reaction.
,, 28th	1/50,000th ,, ,,	Marked reaction continued until the next dose.
Oct. 5th	1/100,000th milligramme T.R.	Temperature fell.
,, 28th	1/100,000th ,, ,,	No reaction.
Nov. 5th	1/50,000th ,, ,,	Short but sharp reaction.
,, 11th	1/100,000th milligramme P.T.R.	No reaction.
,, 30th	1/100,000th ,, ,,	Very slight reaction.
Dec. 7th	1/50,000th ,, ,,	Short but sharp reaction.
,, 17th	1/100,000th milligramme T.R.	No reaction.

The inoculations were accompanied by steady improvement. It will be noted that after a marked reaction, even though short, a change in the vaccine is made.

It is plain from a consideration of Figs. 1 and 2, and the notes of the chronic case, that after a series of inoculations of one form of tuberculin—T.R. or P.T.R. as the case may be—a reaction develops as the result of hypersensitiveness, and that this reaction may be terminated by an inoculation of the other form. These two central facts will, I am convinced, be amply confirmed on extended trial; but whether the doses I have indicated are the most efficient, either during the sensitising process or for cutting short the reaction, I prefer to leave *sub judice*. I certainly would hope that my present practice, as set forth above, may be gradually improved upon, though I believe that if rigidly adhered to it will be found to embody a greater measure of safety than has as yet been obtainable.

Before touching on any theoretical consideration I would first ask the medical reader, whether he specialises in the treatment of lung disease or whether he may hitherto have hesitated to embark on the hazardous course of treatment by tuberculin in acute phthisis, to dwell once more on the extreme importance of the power which he possesses of cutting short a reaction arising unexpectedly during a course of inoculations. To be able to allay the natural anxiety of his patient during a seemingly acute exacerbation by prophesying the date when the symptoms will abate is to create a sense of security and confidence on both sides which can only make for mutual benefit. And if, as I believe, each such carefully limited reaction will bring the ultimate goal of complete cure nearer, then the value of tuberculin, accompanied as it must be in acute phthisis by fluctuations of temperature, will be most amply demonstrated.

Theoretical Considerations.

I would now advance three propositions, important from a practical standpoint in that, if accepted, they provide a firm base on which the inoculator can take his stand, and whence he can follow whatever hypothesis attracts him into the labyrinth of speculation surrounding the phenomena of active immunisation.

1. *Auto-inoculations theoretically must have a greater curative action than therapeutic inoculations of tuberculin in the treatment of phthisis (whether acute or chronic).*—I am using this word auto-inoculations in the generally accepted sense—that is, as connoting the sum total of products, poisonous to the human organism, including quite probably living germs, which by any means whatever are made to leave the focus of infection and enter the general blood or lymphatic systems. It is certain that a stream of such products must always be entering the circulation from an active tubercular focus in the lung, and so in a sense auto-inoculation is always proceeding; but from time to time something more than this occurs, and the result is a definite recognisable fluctuation in the patient's condition, comparable to the negative and positive phases (Wright) of a therapeutic inoculation curve. This last is the picture I wish to bring before the mind when using the term auto-inoculation.

It will be granted that the more closely a vacine conforms in its constitution to the bacterial products produced in the lesion, the more efficient will be the action of that vaccine, for this is the basis of the inoculator's art. Obviously one can never hope to produce artificially such a vaccine so perfectly mixed and graded as would stimulate the production by the immunising mechanism of the exact proportion of antibodies required to neutralise respectively bacterial poisons, elaborated by the tubercle bacillus and possibly several secondary organisms, and poisons resulting from cell destruction. Auto-inoculations may not be safe, they may be most dangerous, but theoretically they provide a more perfect vaccine than tuberculin even combined with other vaccines.

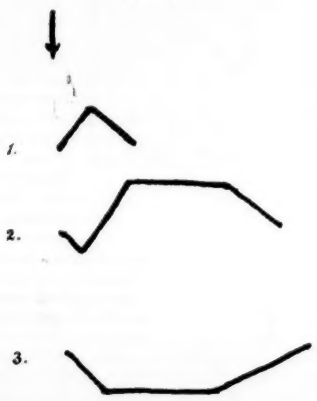
Space will not permit me to do more than mention Paterson's magnificent results at Frimley through the systematic adoption of auto-inoculation in afebrile cases, or Hort's suggestion to use a spirometer for the production of auto-inoculation when fever prevents exercise. Both these observers are undoubtedly firm believers in the correctness of my first proposition.

2. *Tuberculin treatment causes hyperæmia at the lesion.*—This is generally accepted; I would refer the reader to Roepke and Bandelier ("Tuberculin in Diagnosis and Treatment"). Now Wright, Freeman, and many others have proved that hyperæmia is a cause of auto-inoculation. The more vascular a tissue in which a lesion is situated the more easily

will hyperæmia result in auto-inoculation. Lung tissue is *par excellence* the site where auto-inoculation could most easily be induced by a condition of hyperæmia. My third proposition may therefore in theory be accepted with confidence.

3. *Inoculations of tuberculin cause auto-inoculation.*[2]—This proposition leads us on to somewhat new ground. It certainly suggests a new conception. It would be necessary to modify the dictum, "A therapeutic inoculation must be safer than an auto-inoculation, because the former is a measured dose of dead germs and the latter an unmeasured dose of possibly live ones!" As a matter of fact, the amount of auto-inoculation which follows a dose of tuberculin does very greatly depend on the dose administered, and since this can be varied to some extent we can control the process; but it also depends, as a few moments of consideration will convince us, on the area of lung which is diseased, and again

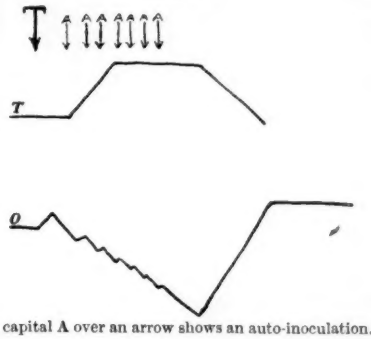
FIG. 3.



on the sensitiveness of the organism to tuberculin—a sensitiveness which is gradually developed through repetition of equal doses. It will be agreed that if auto-inoculations are an advantage in the treatment of febrile phthisis, as they undoubtedly are in chronic, and if tuberculin can cause auto-inoculation, then tuberculin would be a most convenient method of administering the necessary stimulus. Proposition 3, then, seems of some importance. I therefore propose to examine what evidence can be found to bear on the subject.

We should expect to find that until the effect of a therapeutic dose of tuberculin had entirely disappeared the clinical and bacteriological picture could be interpreted rationally by supposing the existence of a double wave of immunity instead of a single one—a wave due to tuberculin, followed sooner or later by a wave due to auto-inoculation, a primary wave, and a secondary wave. Since the amount of hyperæmia depends to some extent on the size of the dose—it comes on quicker and is more intense the larger the dose—we should expect to find that the larger the dose the more rapidly would the secondary wave appear, and the more quickly would it obscure the proper course of the primary wave. It is plain then that, except after minute doses of tuberculin, with an immunity curve (Wright) lasting only a few days, could the primary and secondary curve be separate and distinct, as a rule a superimposition of the latter on the former would take place. The primary and secondary waves

FIG. 4.

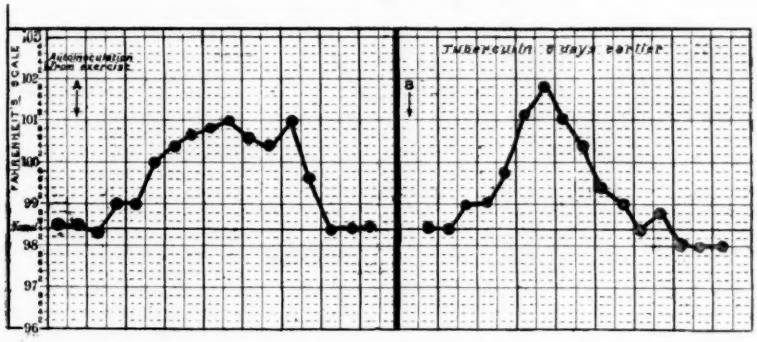


A capital A over an arrow shows an auto-inoculation.

should appear both in the clinical picture and also in the immunity curve as defined by the opsonic index. It will be agreed that the secondary wave is likely in active febrile phthisis to be a very great deal larger than the primary wave, and more especially so when we are dealing with minute doses of tuberculin. We should not be surprised to find that the primary wave clinically was only just recognisable; the secondary, on the other hand, strongly marked, whilst the immunity curve of the primary and secondary waves might approximate respectively to Wright's first and last schematic figures (Fig. 3).

Hitherto, for simplicity, we have regarded an auto-inoculation as a single definite occurrence, like an inocula-

FIG. 5.



Shows the similarity between an auto-inoculation curve due to exercise and one due to hyperæmia set up by tuberculin.

Let us first, for the sake of argument, assume its correctness—then let us consider what we should expect to find happening as the result of a dose of tuberculin. Lastly, let us examine actual results and see how they compare with the theoretical.

tion of tuberculin. Obviously this is not a correct view; it should be regarded rather as a rapid series of inoculations, small or larger, as the case may be, forming one continuous whole. Taking the temperature as a guide to the clinical condition and the opsonic curve to represent the immunity we might expect to find something of this kind (Fig. 4).

Again, we ought to find a close resemblance between the secondary wave (when separated from the primary) and an auto-inoculation the result of excessive exertion (Fig. 5).

[2] Note that in these propositions (2 and 3) I am careful to avoid dogmatising on the effect of one inoculation of tuberculin, for it usually requires more than one dose to produce any appreciable hyperæmia when the doses are small.

Finally, it might be supposed that if during a prolonged negative phase occurring as the result of the secondary wave a minimal dose of tuberculin could be given, which would not further increase the hyperæmia, then a positive phase might be immediately brought on.

Let us now see how far the facts compare with the theoretical deductions.

Fig. 6 shows the effect of tuberculin in three different degrees. Schematically we may represent them as shown in Figs. 7 A, 7 B, and 7 C.

In A the primary wave is very short, and is not recognisable clinically; then follows the negative phase of the secondary wave.

In B, which is taken from Fig. 2, Nov. 10–18, there is a more fully developed primary wave also complete. As the immunity curve begins to rise after the drop at the end of the positive phase it is suddenly checked by the advent of the negative phase of the secondary wave. Turn for one moment to Fig. 2, Nov. 17th *et seq.*, and see the further development of this wave; it continues to show a prolonged negative phase until a dose of bovine tuberculin given on the 19th apparently brings about a typical positive phase. It is probable that the bovine tuberculin did not cause any increased hyperæmia.

In C, taken from Fig. 1, July 30th to August 7th, the primary wave is only just commencing; it is, in fact, only nearing the end of the negative phase; then the negative phase of the secondary wave is suddenly superimposed. Clinically the picture is equally plain: first two days of malaise following the dose, then three days of amelioration; lastly, a prolonged and distressing reaction. Here, then, the facts coincide very well with the theory.

Further rather striking confirmation is afforded by the next schema. This represents very closely the chart of a case of afebrile phthisis which I inoculated some two years ago, with doses varying from 1/10,000th to 1/6500th milligramme T.R. (modern reckoning). The temperature was steadily normal during the course except on two occasions—the first when I omitted a dose whilst away on a holiday and the second some 17 days after the last dose was given (Fig. 8). One can plainly see the primary and secondary waves distinct, the secondary curve is stepped and suggests that auto-inoculation is a process taking time.

If the truth of these propositions be admitted as far as they relate to acute phthisis, it is certainly probable that also in afebrile cases the chief value of tuberculin lies in the auto-inoculations induced by the hyperæmia. I will not further enlarge on the point, save by suggesting the possibility that this principle may be found to underlie many of the phenomena associated with the exploitation of vaccines other than tuberculin.

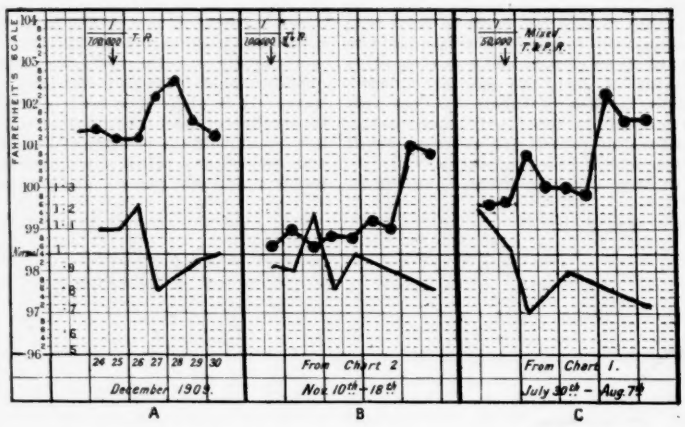
There still remain the questions: (1) of the causation of the hyperæmia; (2) of the development of hypersensibility or "anaphylaxis"; and (3) of the inhibitory action of a different form of tuberculin.

Many theories have been advanced to account for this hyperæmia, none entirely satisfactory. For details I would refer the reader to Emery's "Immunity and Specific Therapy." I cannot but think that the authors of these various explanations had in their mind the central nervous system as the immediate agent in the production of the hyperæmia, for it is almost incredible that pathological hyperæmia should differ in its origin so entirely from physiological hyperæmia as to arise independently altogether of nerve control. But no suggestion seems to have been definitely brought forward as yet that an afferent nerve, a nerve cell, and an efferent nerve are integral and necessary parts of the phenomenon. Yet surely it must be so, and although it may be possible to cut out the afferent nerve by presupposing a direct stimulation of a nerve centre by the circulating poisons in the blood, yet this does not materially affect the position.

Admit the possibility of collaboration by the central nervous system in the production of immunity and the problem certainly becomes simplified. It would not be greatly stretching the imagination to ascribe to the central nervous system the power of causing the elaboration of anti-bodies, whether in response to artificial tuberculin or to autogenous auto-inoculation products. The elaboration of HCl, alkalis, most ferments, and various internal secretions are certainly under control of the central nervous system; why not antibodies? But whether one would go to such a length or no, it is more than probable that pathological hyperæmia is the result of nerve stimulation.

One would regard a prolonged reaction following tuberculin as a vicious circle wherein, firstly, the central nervous system, stimulated either directly or indirectly through some afferent nerve by the artificial tuberculin, produces a hyperæmia. Secondly, the hyperæmia gives rise to auto-inoculations, of which the products in turn evoke increased hyperæmia, and so on. Whilst all the time nature is striving to produce a sufficiency of antibodies, to combine with all the toxic

Fig. 6.



Showing effect of tuberculin in three different degrees.

Fig. 7 A.

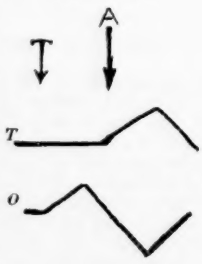


Fig. 7 B.

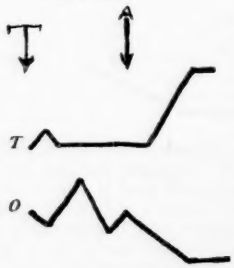


Fig. 7 C.

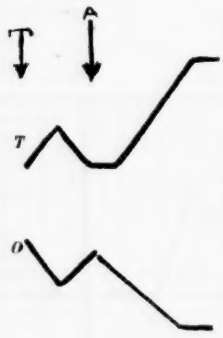
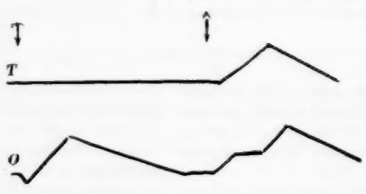


Fig. 8.



substances formed during this period. At last she is successful and the circle is broken, for the auto-inoculation products become neutralised as soon as they are formed and before they are able to further stimulate the central nervous system. The hyperæmia subsides and the reaction is at an end.

It must be admitted that artificial tuberculin probably differs very considerably in constitution from the product of the tubercle bacillus grown in the human system; hence at its first introduction the central nervous system may not recognise it as akin to the enemy within the lung. Therefore, no stimulus is provided to increase the hyperæmia at the lesion, yet at the same time antibodies must be produced to meet the new element now in the system, and though these antibodies may differ from those already under process of manufacture, yet there may be sufficient similarity to turn the scale against the products of auto-inoculation, and thus we can account for an improvement after the first dose. Exaggerated reactions may follow later doses, as the central nervous system gradually learns to associate tuberculin with the products of the disease which has attacked the system. In like manner, if a savage were to hear the dinner bell for the first time it would convey to him no meaning, but after he found that it preceded a meal, then at the third or fourth time of hearing the welcome sound his central nervous system would have become educated to its significance, and would set in motion the elaborate mechanism of digestion. An application of the same idea is all that is required to explain the action of bovine tuberculin in cutting short an auto-inoculation. Again a different product; to complete the simile it rings a different bell.

Tuberculin, then, would have a two-fold action. It always must excite the production of anti-tuberculin, it sometimes may also stimulate the central nervous system.

To sum up: 1. On general principles auto-inoculations should have a greater effect in influencing the course of phthisis for good than artificial tuberculin, that is, regarding tuberculin merely as an agent which stimulates the system to produce antibodies. 2. But tuberculin itself, if not at first, after repeated doses, causes auto-inoculation. 3. Tuberculin provides an easy method of inducing auto-inoculation in acute phthisis. 4. Auto-inoculations are dangerous in acute phthisis if they be too prolonged in their effect. 5. The power to stop an auto-inoculation at will diminishes this danger. 6. By using T.R. and P.T.R. in an alternating fashion, whilst the patient becomes sensitised to the one form, the power to prevent mischief is vested in the other, and on a continuance of inoculations of that other the inhibitory action is transferred to the former. 7. For a full development of this inhibitory action hypersensibility should be developed, hence small doses should be used because an auto-inoculation effect after the first dose or two is not desirable. 8. That the central nervous system may possibly play an important part in the processes of immunisation.

Yelverton, Devon.

THE TREATMENT OF GRAVES'S DISEASE WITH THE MILK OF THYROIDLESS GOATS.

BY WALTER EDMUNDS, M.A., M.B., M.C. CANTAB., F.R.C.S. ENG.,

SURGEON TO THE PRINCE OF WALES'S GENERAL HOSPITAL, TOTTENHAM.

A REPORT on this method of treatment was made two years ago[1] and again one year ago[2]; the present communication continues the previously recorded cases and adds others.

Of Case 1 nothing more has been heard; Case 2 is said to remain in good health; Case 3 is important because severe, and therefore a severe test. During the latter half of 1907 the patient took the milk from a thyroidless goat, and again during the whole of the summer of 1908; throughout 1909 there was given the dried whipped blood from a thyroidless goat, but early in 1910 it was found to cause diarrhœa, and was therefore stopped. During the whole of this time the patient was, as she still is, seriously ill, and was for a considerable period confined to her bed; the goitre is large, the pulse frequent; there are also exophthalmos and occasional attacks of dyspnœa at night. There is no evidence that the specific treatment by rodagen, by milk from thyroidless goats, or by dried blood from them was of any benefit in this case. Of Case 4 there is no further information.

CASE 5.—During the early part of the summer of 1909 this patient again had the goat's milk, and in June, 1909, commenced X ray treatment to the thyroid, the applications being at first twice, then once a week. She also took thyroidectin when the milk-supply failed. In November she was again admitted to hospital for a short time. She is now much better; the eyes are less prominent, she herself is less nervous, and the goitre is much smaller; it can now be distinguished into two separate soft lateral lobes and a central lobe, hard and tender; the diminution in the size of the goitre seems to be due to the X ray treatment.

Of Cases 6, 7, 8, and 9 nothing more has been seen. Case 10 was seen again in October, 1909; she is better than she was; the goitre is not very large, but is still obvious; it is firm to pressure; the eyes are still prominent.

CASE 11.—Early in 1909 a thyroidless goat was given to this patient, and she took its milk from April to December, 1909. She now considers herself much better in every way than she has been for years; she sleeps better; she is subject to attacks of palpitation about once a fortnight, generally at night; they last about half an hour; she says her heart is much better. The eyes are very little prominent, but the lids do not follow the globe down; the throat is much smaller; pulse 80.

Of Cases 12, 13, 14, and 15 there is no further information.

The following four cases are additional.

CASE 16.—Male, aged 34 years. The symptoms commenced early in 1908, but the patient did not seek advice until November of that year, when he was found to be suffering from fairly typical Graves's disease. He was treated with rodagen, but he did not improve; indeed, he became worse. He was then given thyroidectin, which he thinks does him good and which he therefore continues to take. In March, 1909, a consultation was held on the case and it was advised that the patient for three months should give up his work and rest in bed, having at the same time the milk of a thyroidless goat. Under this treatment the patient got much better, though he lost weight. After three months he went to the seaside and stopped the goat's milk; a month later he returned and resumed his work. He has now regained his weight and is in good health. The throat is of about the same size, but the eyes are no longer markedly prominent.

CASE 17.—A single woman. The symptoms commenced six years ago. In the spring of 1909 she was seriously ill with Graves's disease; pulse 145, attacks of dyspnœa at night, and a large goitre. She was treated with the milk from a thyroidless goat for four and a half months and also took rodagen. She greatly improved.

CASE 18.—A married woman, aged 28 years. She was admitted to hospital in May, 1909; obvious exophthalmos, pulse 120, thyroid uniformly and distinctly enlarged but not greatly so, tremors in hands. She was treated with milk from thyroidless goats, having from 35 to 40 ounces a day. When she left the hospital in two and a half months' time she was much better. In February, 1910, she was not so well and was readmitted. There is still obvious exophthalmos.

CASE 19.—A single woman, aged 24 years. The Graves's disease commenced four or five years ago; 18 months ago it was worse than at present (May, 1909), when this note was taken: "Pulse is 140; there is a uniform enlargement of the thyroid gland; there is also slight but distinct exophthalmos; it has been more marked than at present." During the summer of 1909 the patient took the milk of three thyroidless goats which had been operated on for her by her medical man, having for part of the time as much as two quarts a day; by September she felt herself much better; the exophthalmos was not so noticeable as in May and the goitre was smaller.

In the winter of 1908–09 I supplied some thyroidless goats to Dr. J. R. Gilmour of the West Riding Asylum, Scalebor Park, who tried the treatment on cases of Graves's disease under his care on account of mental symptoms, and has published his results.[3] In two cases there was considerable improvement, and in a third complete recovery. This last

[1] THE LANCET, Jan. 25th, 1908, p. 227.
[2] THE LANCET, April 10th, 1909, p. 1040.

[3] The Mental Symptoms in Cases of Exophthalmic Goitre and their Treatment, Journal of Mental Science, October, 1909.

case is especially interesting; there had already been improvement following the administration of Morbius's anti-thyroid serum.

"At the end of January," Dr. Gilmour reports, "we were able to begin the milk from thyroidless goats, and within a fortnight there was again an improvement. The pulse-rate declined to 88, and the mental symptoms ceased. Accidentally, we had to stop the milk for about ten days, and during this time the goitre again became prominent, and the symptoms showed signs of returning. During each exacerbation diplopia was present and troublesome. About the third week in February she had the entire milk-supply from one goat, and rapid improvement set in. The goitre diminished. She became very cheerful, happy, and contented. The pulse-rate fell to 64 per minute. The points of interest in this case are the very marked variation which occurred in the thyroid gland coincident with the use of anti-thyroid remedies, and the accompanying improvement of the mental symptoms."

Devonshire-place, W.

A CASE OF "TYPHOID SPINE."

BY E. ROCK CARLING, M.B., B.S. LOND., F.R.C.S. ENG.,
SURGEON, SEAMEN'S HOSPITAL, GREENWICH; ASSISTANT SURGEON, WESTMINSTER HOSPITAL, ETC.;
AND
L. R. KING, M.R.C.S. ENG., L.R.C.P. LOND.

A BOY, aged 15 years, was admitted from the *Arethusa* to the Seamen's Hospital, Greenwich, under the care of Sir William Bennett on Oct. 25th, 1909. Dr. C. G. Pugh, medical officer of health of Southend-on-Sea, gave the following particulars of the boy's illness:—

"He arrived in the borough on a day trip on July 9th; he had for several days felt ill, although he had not declared himself 'sick,' as he was anxious not to miss the day excursion. During the afternoon he became worse, complained of abdominal pain, was feverish, and was consequently admitted to the local voluntary hospital with a diagnosis of appendicitis. His condition not improving, laparotomy was performed on the following day, his appendix being removed. On July 13th I was asked to see him in consultation with the visiting surgeon as his symptoms pointed to the possibility of his illness being enteric fever. His spleen was enlarged, he had a few doubtful spots, and he was passing typical pea-soupy stools. His blood giving a good Widal reaction, he was on July 14th admitted to the borough sanatorium as a case of enteric fever.

His temperature fell gradually and became normal on July 20th. During the intervening period he continued to pass pea-soupy stools, some of which contained sloughs, and upon one occasion he had slight hæmorrhage from the bowel. On July 26th his temperature again became raised, a slight fulness could be felt above the pubes, and he complained of a frequent desire to go to stool. Upon rectal examination I felt a large swelling bulging into the right side of the rectum just below the brim of the pelvis. The surgeon who had operated previously was called in consultation, and as on the 29th of July the rectal swelling had become more marked and softer, while the fulness above the pubes was increased, he decided to perform laparotomy again. He made an incision in the mid-line, gradually broke down the adhesions between the subjacent coils of small intestine, and came upon a tense collection of fluid, just below the brim of the pelvis on the right side; the fluid, which proved to be turbid but not very offensive, was evacuated, and a drainage tube inserted. On the following day the temperature fell to normal; the discharge from the tube soon diminished, so that by August 26th the wound was superficial. The boy was discharged apparently well on Sept. 4th, the wound being healed."

The lad returned to his training ship, the *Arethusa*, and remained well till early in October, when he began to complain of pain in the back, for which he was put to bed on the 11th and sent to hospital a fortnight later. He was able to walk without pain, but it hurt him to bend his back. He appeared well-nourished. Beyond the scars of recent operations the abdomen showed nothing abnormal. The spleen could not be felt, though there was slight tenderness below the left costal margin. Upon examination of the back the spines of the eleventh and twelfth dorsal and first lumbar vertebræ were seen to be prominent, whilst there was a deviation of the column to the right from the level of the disc between the twelfth dorsal and first lumbar, compensated by a very gentle curve with concavity to the left in the upper dorsal region. The prominent spines were tender to percussion. Pain was elicited by jarring the spine as a whole and by pressure on the outer ends of the two lowest ribs. The knee-jerks and ankle-jerks were decidedly brisk, but the plantar reflex was flexor, and there was no disturbance of sensation. The spine was rigid in the whole lumbar and lower dorsal regions. On stooping down he was obliged to help himself upright by his hands on his thighs. There was no rotation below the cervical region. The temperature on admission was 99° F., and on the 28th it rose to 101·2°; he complained of "starting pains" which were immediately relieved by weight extension. On Nov. 2nd Dr. J. J. Braxton Hicks reported: "Widal reaction positive; microscopic method, dilution 1—30, in half an hour; sedimentation method, flocculi appearing at the end of three hours." This reaction was still to be obtained in February, 1910.

The progress of the case was steady but slow. The temperature was never seriously raised, but was a little above normal, with an occasional sharp rise of a couple of degrees. By the end of January the prominence of the spines had disappeared and a considerable degree of mobility had returned. No thickening was palpable on the dorsal aspect of the column. An X-ray photograph taken on Oct. 27th showed a very dense shadow over the bodies of the ninth, tenth, and eleventh dorsal vertebræ, extending laterally beyond their limits and expanding from above downwards to a point an inch outside the articular process on the right side and rather less on the left. The right edge of this shadow was rectilinear and well defined; the left edge was irregular and not so well defined below. Three weeks later a radiogram showed similar appearances but with modifications. The main mass of shadow was less dense, whilst indications of a localisation to the costo-vertebral articulations could be made out.

The interpretation of these radiographic appearances is by no means easy, but considered in conjunction with the clinical signs it may be taken to indicate a perfectly definite local lesion, in all probability an effusion beneath the periosteum or the anterior and lateral ligaments and around the costal joints. Very little new bone formation has resulted, and the maintenance of extension has permitted almost complete rectification of the deformity. There is strong presumption that the lesion was a spondylitis or paraspondylitis due to the bacillus typhosus.

Recent papers by Neisser,[1] Lord[2] (analysis of 26 cases), Fluss,[3] McCrae,[4] and Halpenny[5] have expanded our knowledge of the condition, and in particular have relegated the ideas which formerly prevailed as to the neurotic basis to their proper symptomatic limitations. Halpenny gives a bibliography of some 90 numbers and collates 73 cases. Briefly, his analysis shows that the majority of cases occur between the age of 20 and 35 years; males predominate (83 per cent.). The onset may be sudden (10 cases) or insidious (39 cases), is often determined by trauma, and occurs during convalescence in two-thirds of the instances; the lumbar region is by far the commonest site. Pain may be so severe as to require morphia or even chloroform; fever is not always present. Deformity is mentioned in the reports of 23 patients; in a few instances there have been signs of pressure on nerve-roots and in others of changes in the cord. Very few cases have been operated upon, and it is not clear that in any instance a pure typhoid osteomyelitis of the vertebral bodies was demonstrated. It is of interest, however, to recall that Quincke and Stuhler found the bacillus typhosus in the rib marrow of eight out of nine fatal cases, and that Fraenkel in all of ten cases found the bacilli in the cancellous tissue of the vertebræ, the greatest numbers being present in the lumbar region. The duration, as stated in 34 cases, is usually from three to five months, but one of two years is recorded. Mention of non-recurrence is made in 58 reports. X-ray examinations appear to have been made in 11 cases; in one

[1] Neisser: Deutsche Aerzte Zeitschrift, 1900, 23.
[2] Lord: Boston Medical and Surgical Journal, 1902, vol. i., p. 689.
[3] Fluss: Centralblatt für die Grenzgebiete der Medicin und Chirurgie, 1905, 8, No. 17 et seq.
[4] McCrae: American Journal of the Medical Sciences, 1906, vol. ii., p. 878.
[5] Halpenny: Surgery, Gynæcology, and Obstetrics, December, 1909, p. 649

or two nothing abnormal has been found. For the most part, new bone filling in the intervertebral spaces or in the lateral ligament, or definite synostosis has been indicated. A case reported by Silver is described thus: "..... On the right the lateral borders of the two vertebral bodies formed an unbroken line; on the left there was an irregular shadow projecting outward between the transverse processes," and seems to correspond to our case.

A NOTE ON THE MINUTE STRUCTURE OF THE THYROID GLAND.

BY D. CHALMERS WATSON, M.D. EDIN., F.R.C.P. EDIN.,
ASSISTANT PHYSICIAN, ROYAL INFIRMARY, EDINBURGH.

IN the course of an investigation into the effects of varying diets on the structure of the tissues and organs in tame rats, my attention has incidentally been directed to the varying histological appearances of the thyroid gland in wild rats. The examination of the thyroid gland in a series of 40 wild rats, all apparently healthy, has shown wide variations in the histological appearances of this gland. This point is one of considerable interest, and, so far as I am aware, attention has not previously been directed to it. The source from which the animals were obtained was noted in all instances, the rats being caught in such diverse places as a sewer, a hotel basement, outhouses of an asylum, railway station, a canal bank, and a bird shop. The weights of the rats ranged 60 to 370 grammes, 20 of the number weighing 200 grammes and upwards. As it was observed that the histological appearances of the gland in quite young animals were not strikingly different from those of the fully grown subjects in the same series it is assumed that the differences in the histological appearances to be described are not directly associated with the age of the animal, and accordingly no further differentiation will be made between the condition of the gland in young and adult subjects.

Histological appearances.—The microscopic appearances of the gland vary considerably. In many glands the vesicles are large and full of colloid, which takes a very delicate pink stain with the hæmotoxylin and eosin stain; a few of the vesicles may be empty or may contain a clear watery secretion. The secreting cells lining the vesicles are flat in character and consist of a darkly stained nucleus with a very small amount of protoplasm in the body of the cell, the nucleus occupying the entire breadth of the cell. There is a relatively small amount of intervesicular glandular tissue. Blood-vessels are inconspicuous. Fig. 2 illustrates another type of gland which differs from the first chiefly in presenting a more cellular appearance and containing less colloid; as in the former instance, the colloid may be stained a delicate pink or may have no affinity for the hæmatoxylin and eosin stain. Blood-vessels are prominent. On high power examination the secreting cells are of a low columnar or cubical shape, the nucleus being of a moderate size and circular shape, and occupying the entire breadth of the cell. There is a moderate amount of intervesicular glandular tissue, the nuclei in these cells being considerably larger than those of the cells lining the vesicles. There are also glands intermediate in structure between those represented in Figs. 1 and 2 respectively. The appearances represented in these figures were present in 31 of the series of 40 animals; in 26 out of the 31 the type of gland was similar to that shown in Fig. 1.

FIG. 1.

FIG. 2.

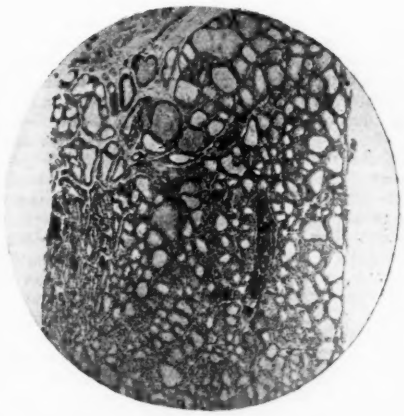
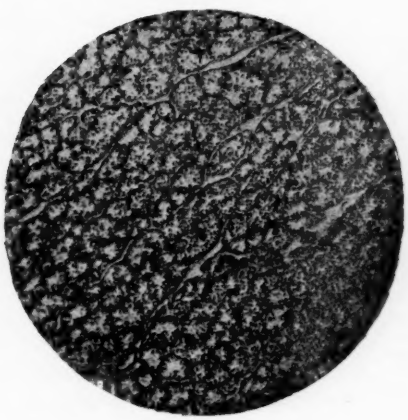


FIG. 3.

FIG. 4.



A third type of gland is depicted in Fig. 3, and is entirely different from 1 and 2. The vesicles are small, and contain little or no secretion. Their contents take the form of a perfectly clear, unstained, or of a faintly stained, granular material. The secreting cells are very large and prominent; the nucleus is large and situated at the basal part of the cell, there being a wide free margin of faintly granular protoplasm. In some vesicles the lumen is not shapely defined, the granular secretion in the vesicles being apparently continuous with the similarly stained protoplasm of the outer part of the secreting cell. The nuclei of the secreting cells are unequally stained, some of these presenting a pale granular appearance. The gland appears more vascular than either of the foregoing, capillaries and large vessels being alike prominent. This type of gland was present in five of the series.

Yet another type of gland is illustrated in Fig. 4. The appearance here is different from all the foregoing and at first sight is not readily recognisable as thyroid tissue. The secreting cells are swollen and distorted and many are detached and lie free in the lumen. There is no colloid. On high-power examination it is also seen that the majority of the secreting cells are swollen, distorted, and detached; others are smaller in size and are represented by a very small deeply stained nucleus with a small amount of granular protoplasm around. There are few blood-vessels. This type of gland was present in four of the series.

Explanation of the different appearances.—These results therefore show that the minute structure of the thyroid gland in apparently healthy wild rats differs widely in different animals. The differences must, it seems to me, be explained in one or other of the following ways. Either the appearances represent different stages of activity of the gland comparable to those observed in other secreting glands, these variations being dependent on the stage of secretion, or they represent modifications in the structure and functions of the gland which have been induced by dietetic or other factors in the animal's environment. The former explanation seems not to hold good, since a careful investigation into the nature of the stomach contents in the different animals, along with a consideration of the microscopic appearances of the thyroid in each case, has yielded evidence against it. For instance, the appearances of the gland shown in Fig. 1 were observed both in animals in which the stomach was full and also when it was empty. And again, the different appearances represented in Figs. 3 and 4 were alike observed in animals in which the stomach was about one-third full, while in other animals with an equal amount of stomach contents the condition of the thyroid gland was entirely different from both.

The second explanation seems, therefore, to be the more probable, the effects observed indicating that modifications in structure and function of the thyroid gland occur in association with different environmental conditions. In view of the fact recently demonstrated by the writer, that certain diets modify the structural appearances of the thyroid gland in tame rats, it is reasonable to think that diet may have been the chief factor in inducing the modifications of structure described in the present paper. In this connexion it is of interest to note that it was observed that the thyroid gland of all the animals from any one source invariably presented the same general characters. The point, however, is one which can only be definitely settled by experiment, and an investigation is at present in progress to determine the correctness or otherwise of the explanation suggested.

Edinburgh.

THE PEOPLE'S REFRESHMENT HOUSE ASSOCIATION, LIMITED.—The thirteenth annual report of this association, which will be submitted to the annual general meeting to be held at Broadway Chambers, Westminster, on April 25th, at 2.30 P.M., shows that the association is steadily extending the field of its operations. At the end of December, 1909, 59 inns were in possession of the association, and 12 were under its management as agent, and were conducted on a system of giving to managers a large share of the profits on non-alcoholic drinks and foods while withholding from them all profits on alcohol. To show how much these reformed public-houses are appreciated by working men, it may be mentioned that at one house at Chislehurst the number of cups of tea served in the bar rose from 707 in 1908 to 2765 in 1909. The profit for the past year was £2468.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

UNUSUAL ENDING IN A CASE OF ARSENIC POISONING.

BY W. J. WEBB ANDERSON, M.D. LEEDS, CH.B. VICT.,
FATSHAN HOSPITAL, WESLEYAN MISSION, CANTON.

MY colleague was called to a case of poisoning due to eating a large piece of native arsenic. On arrival he found a native woman, aged 28 years, in a state of frightful collapse, with much retching and some diarrhœa. He ascertained that on the day before—i.e., fully 24 hours—the woman had a violent quarrel with her husband and had threatened to eat arsenic. This she had done after the evening meal of rice, a fact that accounts perhaps for the delay of the symptoms; about 8 P.M. she felt sick and began to vomit. This continued all night, being followed by slight diarrhœa. Native nostrums were used, but with little avail. Failing improvement we were called in to see the woman. My colleague found a well-nourished and evidently very strong young woman lying on a filthy bed in a filthier room. All native ideas of cure having given out, despair and even callousness took possession of all concerned. At once the failing pulse was stimulated by hypodermic injections, and water being secured the stomach was washed out with quarts of a solution of Condy's fluid. An extraordinary quantity of grass-like material was removed, tasting more like "sour dock" than anything I could remember. What it was I have not so far been able to find out, but hope yet to secure some for identification. With this there were mixed pieces of native arsenic. This is an arsenic earth in which there are, in some specimens, "red earth" (much used in Hong-Kong for building purposes), some traces of lime, and a little sand. The patient having been so far relieved, revived a little, and after four hours hard work upon her the pulse became stronger, the vomiting ceased, the respiration less sighing, and she was altogether better. Removal to the hospital was advised as the best procedure under the circumstances.

On the next day, Thursday, when the patient arrived, she was anæmic; the pulse was fairly strong and 86 per minute, and the respirations were 20. There was slight diarrhœa; no vomiting; no abdominal pain or tenderness was complained of or felt on palpation; there was no fulness or tympanites. Treatment on the Thursday and Friday consisted of periodic washing out of the stomach with the solution of Condy's fluid, doses of peroxide of iron and soda bicarbonate, castor oil (one ounce), and high enemata. On Saturday she was eating well, taking milk and *conjè* (rice water). The pulse was slower, fuller, and quite steady. In the afternoon she sat up; the only thing now complained of was weakness. She had no further diarrhœa and no cramps. During the evening she drank freely of milk and chicken broth, being thirsty. On the Sunday at 10 A.M. she was better; the thirst was less, the pulse good, and the abdomen flat; there was no tenderness on palpation; the heart was good. At 11.30 A.M. a message was sent to me saying that she had passed per rectum some fæces and blood stains. At 11.45 A.M., when seen, the patient said that she had a little pain in the epigastric region near the middle line. The pulse was good. At 12.30 P.M. the pulse was faster and the patient was slightly sweating. She was thirsty, a little paler than previously, and anxious about herself. A hot-water bottle and hot fomentations were applied to the abdomen. She had tincture of opium (25 minims) by the mouth. At 1 P.M. she had another evacuation, almost all dark blood, with very little attempt at clotting. Examination of the abdomen showed only slight pain on palpation. She still complained, however, of abdominal pain. Tincture of opium was injected per rectum, and the hot applications were renewed. About 1.30 P.M. the abdominal pain was agonising; the pulse was fast and bounding, of low tension. She was copiously sweating and there was some collapse. Hypodermics of morphia were given and some cardiac stimulants. A diagnosis of hæmorrhage into the intestinal canal about the region of the

duodenum was made, and the case explained to her Chinese friends. Operation was refused. "If Heaven will not cure, then she must die" was the substance of their philosophy. Bismuth, turpentine oil, and hamamelis were in turn tried, but without success. The patient was evidently bleeding internally into the intestines. This was the more apparent, as again she had a rather large bloody evacuation, and the abdomen, which was still quite flat, now showed where the blood was collecting, as there was a tumour just above the umbilicus in the middle line. Peristaltic action could plainly be seen. The patient bore all the signs of acute internal hæmorrhage, and finally died about 2 P.M.

Remarks.—This case is particularly instructive for several reasons: 1. The apparent recovery of the patient, so that we dismissed our fears. 2. The rapid blood-flow into the intestines set up an agonising colic, the peristaltic action only moving on the coagulum to allow of fresh blood flowing, to be followed by a further spasm. 3. The bleeding was evidently very high up in the small intestine, as so small a quantity of partly digested blackish blood was passed per rectum. 4. The bleeding into the intestine (probably the duodenum) is not at all usual. Books and recent literature point out that the duodenum may be bright red, the redness being "due to minute petechiæ" (see Sedgwick's case[1]). But to have a copious hæmorrhage into the intestine—the tumour thus formed visibly enlarging under one's own sight, so marked that my Chinese women nurses again and again drew attention to it—is very unusual. A post-mortem examination was out of the question; indeed, I think a sure way to secure a riot would be to suggest and perform one or two. I conclude that some of the arsenic in the form in which it was eaten had passed into the intestine and had eventually caused acute hyperæmia and then ulceration sufficiently deep to cause some artery to give way. The weakness of this record is in the absence of the post-mortem examination, but things have hardly advanced so far in China—certainly not in this anti-foreign city of Fatshan.

Fatshan.

NOTE ON AN INTERESTING CASE OF CEREBRAL TUMOUR.

BY P. CRAWFORD CONRAN, M.R.C.S. ENG., L.R.C.P. LOND.,
HOUSE PHYSICIAN TO THE MIDDLESEX HOSPITAL.

THE patient, a man, 33 years of age, was admitted to the Middlesex Hospital under the care of Dr. J. Kingston Fowler on Oct. 2nd, 1909. His mother had died from cancer, but otherwise the family history was good. The personal history showed that, with the exception of gonorrhœa on several occasions, there had been no previous illnesses. The patient had always been of a somewhat sleepy disposition, but possessed sufficient intelligence to enable him to manage a large business successfully. In October, 1908, he had many business worries, under the strain of which his health suffered, and he was sent to Margate for a fortnight to recuperate. He returned in a much improved condition, both of mind and body, and until May, 1909, enjoyed fairly good health, taking an active share in the conduct of his business and entering keenly into his usual recreations, of which the chief was rowing. In May the patient's business partner noticed that he had fits of drowsiness. On several occasions during each day he would fall asleep for half an hour at a time, and this symptom became more and more marked as time went on. Sometimes he would fall asleep during his meals, often with a glass in his hand. Usually a rather careful man with regard to money matters, he became reckless and extravagant. For example, he ordered an expensive motor-car, for which he could not pay and which was quite unnecessary. Formerly a man of fastidious taste as to his personal attire and cleanliness, he now became slovenly and careless, and his gait, formerly alert, was now shuffling. Finally, at midday on Oct. 2nd, 1909, a policeman found the patient lying on the pavement in an unconscious state and brought him to the hospital, where he was admitted in a dazed condition with a cut on his chin caused by the fall.

On admission the patient complained of a severe headache, and would only answer in monosyllables after a question had been repeated several times. He was aware of the fact that he was in a hospital, but could give no account of what happened before or after his fall. The pupils were dilated and equal; they reacted sluggishly to light, but well to accommodation. The knee-jerks were present and exaggerated on the right side. The plantar reflex was extensor on both sides, and there was no spasticity. Romberg's sign was present, the patient falling backwards. The pulse was of low tension, and the rate 80 per minute. On the next day at 3 A.M. he became restless and tried to climb out of bed. His pulse was now full and strong, and the respirations were more rapid. He again complained of headache and was given half a drachm of potassium bromide, after which he was more quiet. At 6 A.M. he developed a marked internal squint, which was only present for a few minutes. The pulse dropped to 68 per minute, and respiration became of the Cheyne-Stokes type. The pupils were widely dilated and inactive to light. The limbs were now slightly spastic, the knee-jerks more exaggerated on the left side, and the extensor plantar reflexes more marked. Urine was passed in the bed. The temperature, 98° F. on admission, was now 101·2° and rising steadily. The spasticity gradually passed off and the pulse became more forcible. At 1 P.M. the temperature was 103·5°, the face flushed, breathing stertorous, and the head turned persistently to the left side. The mouth was drawn up on the left side and the right naso-labial fold was lost. The heart beat rapidly and strongly, the carotids pulsated visibly, and a loud systolic murmur was heard at the apex. The patient was quite comatose, the face became cyanosed, the breathing more stertorous, the temperature rose to 106·6°, and at 2.30 P.M. death ensued.

Post mortem a tumour, firm in consistence and having the microscopical structure of a glioma, was found distending the anterior horn of the right lateral ventricle, being attached to the wall by a pedicle.

[1] THE LANCET, July 30th, 1904, p. 299.

Medical Societies.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.

Exhibition of Cases and Specimens.

A CLINICAL meeting of this society was held on April 1st, Dr. NEVILLE T. WOOD, the President, being in the chair.

Mr. E. LAMING EVANS showed a case of Congenital Dislocation of the Hip two years after manipulative replacement. The little girl was 4 years old when she came under his care. A skiagram clearly showed the original condition, the head of the bone being under the glutei, the limb 1¼ inches shorter, and the trochanter 1¼ inches above Nélaton's line. A skiagram of the present condition showed the head in the acetabulum, the borders of which were seen to be particularly shallow in the original skiagram. The leg is the same length as the other, and the child jumps and runs without anything abnormal to be noticed. Mr. Evans described fully his treatment and the reasons for the different positions in which the limb was placed. He pointed out that Trendelenburg's sign was positive, and the importance of this sign in determining if the head was held firmly in the acetabulum. The mobility in the joint was complete. He said that the two principles recognised in the retention of the head in the acetabulum were: (1) muscular retraction and contraction; and (2) fibrous ankylosis. The cure in this case was obtained by the principle of the former method.

Mr. DUNCAN C. L. FITZWILLIAMS showed: 1. A case of Congenital Dislocation of the Left Knee in a child aged 1 year. There was severe talipes equino-varus in the left foot; genu valgum and genu recurvatum; the head of the tibia was dislocated upwards and outwards. Flexion was very imperfect. The presence of a patella was doubtful. The child had been operated on a month ago for strangulated right inguinal hernia. The hernial sac contained small intestine in which were such large hard scybalous masses that the intestine could not be returned without breaking them up. They must have formed in the sac. The child was one of twins. Mr. Fitzwilliams intended to keep the knee flexed for a prolonged period after reducing the dislocation. 2. A case of Traumatic Dislocation of the Knee.

The patient was knocked down by an engine and sustained the following injuries. Several ribs on the left side were broken; there was pneumothorax with blood in the pleural cavity, and there was extensive emphysema on the left side. The left humerus was fractured and the left hand was crushed. The left knee was completely dislocated; the head of the tibia was displaced upwards about 3 inches, lying internal to and behind the femur. The subcutaneous tissue was freely displayed in places, but none of the wounds communicated with the joint. After he had recovered somewhat from the shock the dislocation was easily reduced under spinal analgesia, stovaine being used. The patient, who is aged 31 years, now walks two miles to have his arm massaged.

Mr. W. MCADAM ECCLES showed: 1. A case of "Infective" Osteo-arthritis of both Knee-joints in a man aged 40 years, a type-founder, a fairly healthy man. He had suffered from lead colic 14 years ago, but there had been no recurrence since. There was no history of venereal disease and no signs of tabes. There were pain and difficulty in walking, and the gait was that of catching up the centre of gravity. The teeth had been very defective for years. If the disease had been only in one knee Mr. Eccles would have advised excisions. There was no increase of fluid in the joint. 2. A case of Charcot's Disease of the left Knee-joint in a man aged 34 years. He had had syphilis 17 years ago. The condition came on after straining the left knee eight months ago. There were increase of fluid in the joint, lateral mobility, and alteration of the bones. There were signs of tabes dorsalis. 3. A case of Cystic Swelling of the Abdominal Wall in the left inguinal region in a girl aged 10 years. The swelling was noticed by the mother a short time after an indefinite history of a blow on the abdomen supposed to have occurred three months ago. The case was exhibited for diagnosis. Mr. Eccles, who thought it was probably due to a partial rupture of the lower part of the left rectus abdominis, said that he should explore if improvement did not soon occur.

Dr. FREDERICK S. PALMER showed: 1. A case of Traumatic Epilepsy successfully treated by operation. The right parietal bone was fractured in 1898. In 1904 the patient fell and struck the same region. In 1905 he entered the army. In February, 1906, in India, he began to have epileptic seizures and became hemiplegic on the left side. He was trephined; the hemiplegia disappeared, but he had about 16 epileptic fits after the operation, and was invalided home in November, 1907, and discharged as unfit for service. His fits became frequent and headache became severe. A fit seen began by twitching of the right side of the face and neck, followed by chronic convulsions of the left arm and leg, then becoming generalised. On Feb. 17th, 1909, a portion of skull about 2 by 2½ inches was removed, in which were two depressed pieces of bone, evidently the pieces trephined which had been replaced; a flap of dura mater was raised, nothing abnormal being seen on the exposed cerebral surface; the flap of dura mater was sutured, the bone not being replaced, and the scalp was treated as usual. On May 26th the scalp flap was thrown down and a platinum plate was fixed over the opening in the skull by means of a platinum wire. From the operation until the present there have been no headaches and no epilepsy. The patient was shown at the Medical Society in November, 1909. 2. A case of Monoplegia (Functional) in a girl aged 16 years. In July, 1906, she had an attack of paralysis of the right arm and leg which was cured. Some weeks after returning home she became hemiplegic on the right side without aphasia; this attack also disappeared under treatment by massage and electricity. She remained well after this until the present attack which began in January, 1910. Now there was a flaccid type of paralysis of the right arm; the wrist was flexed and the fingers were strongly flexed over the thumb; all the flexures could be straightened out under gentle pressure. Anæsthesia extended to the elbow. No abnormal nerve signs were present, except that the biceps, triceps, and supinator jerks were diminished and the plantar reflex was absent on the right side. The patient was steadily improving under treatment by massage and static electricity.

Mr. ASLETT BALDWIN showed a case of "Fracture Dislocation" of the Right Shoulder. The radiograph produced showed a fracture through the anatomical neck with the head of the bone beneath the coracoid process. Mr. Baldwin cut down and found a fair amount of capsule attached to the head; so he reduced the dislocation and wired the bones. The wound healed by first intention and there was now very fair movement in the joint. The head appeared to have united to the shaft and to show no sign of wasting.

Mr. CECIL H. LEAF showed: 1. A man, aged 55 years, from whom he had removed three inches of the transverse colon containing a growth, microscopically Myosarcoma. He had been struck in the abdomen one year ago by the pole of a wagon; symptoms were first noticed about four months ago. Mr. Leaf thought the growth owed its origin to the blow. 2. A man, aged 67 years, to show what a great amount of comfort and advantage might be derived from repeated cauterisations in cases of inoperable carcinoma of the tongue. In this case the tongue and inside of the mouth were clean and the man had had no pain since the first cauterisation.

A case of Mr. F. SWINFORD EDWARDS, of Tumour of the Jaw, was shown for diagnosis.—Mr. ASLETT BALDWIN considered that it was probably a case of malignant disease, pointing out that in parts the disease ended abruptly, not fading into the tissues as it would do if inflammatory.—Mr. H. LLOYD WILLIAMS thought that a conclusive diagnosis could not be made. It might either be entirely inflammatory or a new growth complicated by septic infection.

Dr. GEORGE PERNET showed a case of Lichen Planus treated with the Ultra-violet Rays.

Mr. J. C. MARKLOVE showed (for Mr. R. B. ETHERINGTON-SMITH) the case of a man with an Enlarged Right Knee-joint, presumably one of Charcot's disease. There was much fluid. There was no history of trauma. The man denied venereal disease, and had an Argyll Robertson pupil and exaggerated left knee-jerk. The onset was gradual.

Dr. RAYNER BATTEN gave a demonstration of the Hydro-ophthalmoscope, an instrument for the examination of the eye under water. He also pointed out the use he had made of it in the treatment of some diseases of the eye.

Dr. H. MACNAUGHTON-JONES showed six specimens of Uterine Myomata illustrative of degenerative changes.

LIVERPOOL MEDICAL INSTITUTION.—A meeting of the Pathological Section of this society was held on April 7th, Dr. T. R. Bradshaw, the President, being in the chair.—Dr. Leslie Roberts and Dr. F. P. Wilson showed sections of Lichen Planus and Pityriasis Rubra.—Dr. J. Lloyd Roberts showed a section of Endothelioma under the skin following puncture of the pleura.—Mr. F. A. G. Jeans showed 4 feet of Jejunum removed from a man who had been run over, which had perforated; also 3 feet of Ileum removed from a woman with a strangulated ventral hernia. Lateral anastomosis was performed in both instances, and both patients recovered.—Dr. R. E. Kelly showed: 1. A large Urethral Calculus measuring 1 inch in diameter removed from a man on whom perineal section had been performed 11 years previously. 2. Molluscum Contagiosum from the calf of a boy, aged 11 years; it was alleged that the condition was present at birth.—Dr. D. Moore Alexander showed four sections of Retained Testicles removed from subjects aged respectively 8, 13, 24, and 36 years. They showed the gradual fibrotic changes occurring around the tubules and the degeneration of the cells lining the tubules.—Dr. A. G. Gullan and Dr. P. Hick showed a case of Primary Carcinoma of the Right Lung from a woman aged 46 years, which had caused solidification of the right lung and obstructed the superior vena cava and invaded the pericardium.—Dr. J. Owen and Dr. Hick showed a Contracted Stomach, 5 inches in length, the cardiac half admitting the small finger, obtained from a man six weeks after taking spirits of salts. Microscopically the mucous membrane was completely destroyed.—Mr. D. Douglas-Crawford showed: 1. A large Cystic Kidney, probably congenital, removed from a woman, aged 42 years, who had apparently suffered from hæmaturia and renal colic. There was no evidence of cystic disease of the other kidney. The cysts were filled with colloid material and the walls lined with epithelium, cubical or flattened. 2. Meckel's Diverticulum in a Right Inguinal Hernial Sac, which was adherent to the testicle.—Dr. J. E. McDougall showed a specimen of Angioma of the Pyriform Sinus of the Larynx, which had originated at the site of, or in the immediate vicinity of, a foreign body removed by himself several months earlier.—Dr. R. J. M. Buchanan and

Dr. Ernest E. Glynn showed a specimen of Enlarged Tuberculous Bronchial Glands from a man with Mitral Stenosis.—Dr. Glynn also showed a Brain with Diffuse Subarachnoid Hæmorrhage. Also the Lungs from a boy who died from acute pneumococcal septicæmia after an illness of apparently only five hours' duration. There was no pneumonia.—Dr. F. P. Wilson read a note on the Presence of Acid-fast Bacilli in the Stools in Tuberculous Conditions, with special reference to Lupus Vulgaris. He drew attention to recent work which showed that the presence of acid-fast bacilli in the stools was not necessarily due to intestinal ulceration or swallowing of sputum, as they had been found in cases of tuberculous diseases of the joints, glands, and meninges. He had himself examined the fæces of 10 cases of lupus vulgaris by means of smears and also by injection into guinea-pigs. In every case the result was negative. He suggested that further research might meet with success in cases of toxic tuberculides.——A meeting was held on April 14th, Dr. Bradshaw, the President, being in the chair. The first part of the evening was devoted to the exhibition of clinical cases.—Dr. G. G. Stopford Taylor and Dr. R. W. MacKenna communicated a paper on the Spirochæta Pallida. They gave a short history of the introduction of syphilis into Europe and of the various attempts which had been made to discover the organism of the disease before the famous discovery of Schaudinn in 1905. The spirochæta was described in detail and many fine microphotographs were shown of the organism obtained from Dr. Taylor and Dr. MacKenna's pathological material. Its life-history was then described and the gaps in scientific knowledge were pointed out.—Dr. W. T. Prout, alluding to framboesia or yaws, said that some considered this disease to be a form of syphilis. He did not think this view was accepted by those who worked in the tropics. He considered that protozoal diseases were characterised by some similarity of symptoms.—Dr. E. E. Glynn showed some excellent Microphotographs of the Spirochæta.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on April 8th, Dr. J. B. Hellier, the President, being in the chair.—Dr. Bedford Pierce read a paper on Diagnosis in States of Depression.—Dr. E. F. Trevelyan showed a man, aged 46 years, with Lymphatic Leukæmia of about a year's duration. There were some anæmia and widespread though moderate lymphatic enlargement. The tip of the spleen could be felt. The blood count showed 97 per cent. lymphocytes (small mononuclear) of 180,000 leucocytes per cubic millimetre. The red cells stood at 2,700,000.—Dr. Trevelyan and Dr. J. Allan showed a man, aged 53 years, a carpenter, who had been subject to attacks of Painful Tonic Spasm in the Hands in the winter during the past 17 years, the first attack being noted while he was convalescing from pleurisy. The attitude assumed by the hands was that of tetany, but the signs called after Chvostek, Trousseau, and Erb were all absent. There were no noteworthy gastro-intestinal symptoms.—Mr. G. Constable Hayes showed a lad, aged 17 years, with Double Glaucoma. Three months ago while working below surface in a pit he noticed colours around the lights; shortly after sight gradually became affected. He was seen three weeks ago; there was then no injection; T. + 1 in both eyes; the anterior chambers were normal; there was glaucomatous cupping of both discs. The pupils were semi-dilated. Under eserine the pupils did not contract well. T. + 1. On March 25th iridectomy was performed on the right eye. Tension remained − 1 for a week, but had since then gone gradually up again and was now much the same as before the operation. The patient's father, who became totally blind at 30 years of age from chronic glaucoma, was also shown.—Dr. T. Wardrop Griffith and the President showed a woman suffering from Leucocythæmia. The spleen, in addition to being greatly enlarged, was prolapsed and freely moveable about the abdomen, being palpable per vaginam.—Mr. B. G. A. Moynihan showed a specimen of Primary Colloidal Carcinoma of the Gall-bladder removed for rupture.—Dr. C. Oldfield showed a specimen of Pyosalpinx with twisted pedicle removed from a girl, 18 years of age, who had had five or six attacks like acute appendicitis during the preceding 12 months. The condition was bilateral and on the right side there was a pedicle twisted through two complete turns. The ampullary part of the oviduct alone was distended. The macro- and microscopic appearances were those of tubercle, but no bacilli were found. The uterus and ovaries were preserved and the patient made a good recovery.—Dr. A. Bronner showed a case of Hypopyon Ulcer of the Cornea in an adult treated with pyocyanase, dropped in hourly; the symptoms rapidly improved. Dr. Bronner had treated several cases of ulcer of the cornea with pyocyanase drops, and they had all improved very rapidly.—Dr. E. O. Croft showed: 1. A specimen of Fibrosis Uteri removed by vaginal hysterectomy from a multipara, aged 54 years. Persistent menorrhagia had existed for many years in spite of much treatment, including curetting. The uterine walls were uniformly thickened, and the microscope revealed an excessive amount of connective tissue, especially well marked around the blood-vessels. 2. The Uterus and Appendages removed by abdominal hysterectomy for Squamous Epithelioma of the Vaginal Portion of the Cervix. The growth was present superficially on the vaginal portion and had extended somewhat on to the vaginal walls. The cervical canal was healthy. The tissues immediately beneath the ulcer were infiltrated, but there were no deposit in the broad ligaments and no enlargement of the glands. The whole of the palpable disease was easily removed.—Mr. G. P. Anning showed photographs of a Congenital Thoracic Deformity—absence of the left mamma and nipple and the sterno-costal part of the pectoralis major.—Cases and specimens were also shown by Mr. H. Littlewood, Mr. J. F. Dobson, Mr. H. Collinson, the President with Dr. Isaac Taylor, Dr. R. A. Veale, and Dr. W. H. Maxwell Telling.

SOCIETY OF MEDICAL OFFICERS OF HEALTH.—A meeting of this society was held on April 8th, Dr. H. Cooper Pattin, the President, being in the chair.—A paper was read by Mr. C. S. Loch upon the proposals in regard to medical relief made in the Majority Report of the Royal Commission on the Poor-laws and the Relief of Distress, in which he dealt first of all with the present position of medical relief and its organisation, then with the general and other recommendations of the majority of the Commissioners, and lastly with the sufficiency of their suggestions in relation to the organisation of public health. He considered that a free system of medical relief paid for by the State and the transformation of the medical men of the country into a very large State staff was open to the gravest objection. It would run counter to the healthy growth of our social structure, and would weaken social effort, in which lay ultimately the foundation of health and of well-being. In fairness to the profession the rule should be everywhere adopted that the patient should pay according to his ability. The justice of this was self-evident, and it followed that at every hospital or infirmary or Poor-law dispensary, or in connexion with all the forms of outdoor medical relief, there should be payment. Very much could be done to deal with coming illness at the earlier stages. The people could be educated to think. Every centre of medical relief could be used, not merely for curative and alleviative, but also for preventive, purposes. Dr. R. W. Philip's dispensary in Edinburgh had shown what could be done in relation to phthisis by specialisation and visiting, but the system was not applicable to phthisis only. It suggested a form of coöperation between persons and authorities which might be introduced into other branches of medical treatment. The Majority proposals included the voluntary hospitals and dispensaries, and did not exclude the large sick-club organisations. They made assistance available all along the line, and to avoid needless duplication of officials they made one system of Public Assistance serve for medical relief whether it was of adults or of children, and they brought voluntary assistance into relation with it also. The solution of the problem lay in unification or association, with a recognition of differences of function.—Dr. A. H. Bygott considered that using the history of the evolution of our national elementary education system as an analogy good results might be obtained by organising our public medical services on proper coördinating lines so that they would form one public medical service, using voluntary charities as far as possible in a similar way to that in which voluntary schools were used. In this way responsibility would be laid on one pair of shoulders, and the sick person needing relief would know exactly where to go to obtain it.—Mr. F. E. Fremantle rejoiced that the Majority proposals, like those of the Minority, relied so much on prevention. The realisation of either was thus a question of practicability. Those of the Minority

were based upon ideals; those of the Majority were built up from existing conditions.—Mr. E. H. T. Nash considered that in the discussion of any scheme invalidity insurance would have to be reckoned with.—Dr. F. S. Toogood urged that there ought to be no rivalry between the Poor-law medical officer and the medical officer of health. He considered that a fatal blow had been struck when justices of the peace were no longer *ex-officio* members of boards of guardians, and he was of opinion that these bodies had very much deteriorated. He advocated larger areas of administration, and more specialisation.

NORTH OF ENGLAND OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.—A meeting of this society was held at Manchester on Friday, April 15th, Dr. W. K. Walls (Manchester) being in the chair.—Dr. W. E. Fothergill (Manchester) showed a large Fibroma of the Ovarian Ligament and Contiguous Portion of the Ovary. It was markedly infiltrated with blood caused by torsion of its pedicle. This had been associated with symptoms of a subacute nature, and the patient was admitted to hospital. Two days later, whilst waiting for the usual operation day, she was suddenly taken ill and presented all the signs of internal hæmorrhage. The abdomen was opened within half an hour; it contained a large quantity of free blood which had escaped from a vessel at the seat of torsion. The tumour was very easily and quickly removed, and the abdominal cavity was filled with saline. Though the patient rallied and improved for some hours she died next day.—Dr. E. O. Croft (Leeds) recorded a case of Cæsarean Section for a Post-rectal Cyst, which markedly bulged the posterior vaginal wall and displaced the cervix upwards, so that the external os was on a level with the top of the symphysis. Rectal examination showed that the cyst was behind and to the right of the bowel. Pelvic pressure symptoms during the seventh month led to detection of the cyst. Cæsarean section was performed at the estimated full time. After the uterus had been sutured the patient was put into the Trendelenburg position. The cyst was found to be of the size of an orange. The rectum curved over its surface on the left side, whilst on the right side the iliac vessels and the ureter lay in front of it. It was considered unwise to attempt its enucleation from above, so the abdomen was closed. Three weeks later the cyst was opened by an incision through the vagina, a large rectal bougie being placed in the bowel as a guide. Three or four ounces of slightly turbid albuminous fluid were drawn off. It contained neither ordinary dermoid products nor hydatid elements. Finally the cavity was packed with gauze. Ten days later only a slight indistinct thickening could be detected.—Dr. H. Briggs referred to two cases in which he had been able to remove similar thin-walled retro-peritoneal cysts by a perineal dissection between the anal canal and the coccyx.—Dr. Fothergill suggested that such cysts are derived from Wolffian relics.—Dr. H. Clifford (Manchester) showed a Pregnant Uterus containing a Fibroid, and recounted the interesting obstetrical history of the case. On four occasions the tumour, which had enlarged during pregnancy, had almost disappeared within a few weeks after its termination, by forceps on the first two occasions, by forceps after induction at the eighth month on the third, and by Cæsarean section on the fourth. The same variations in its size were noted in association with two later pregnancies which had ended in early abortions. Finally, when pregnant again the patient refused to wait for Cæsarean section, and enucleation proving impossible the uterus was removed.—Dr. H. Leith Murray (Liverpool) read a paper on Red Degeneration of Fibroids, and detailed four cases of the condition. Three of these were unassociated with pregnancy and were producing no symptoms of urgency, while the fourth, occurring in pregnancy, was of a more urgent type. All showed defective nuclear staining, some hyaline and granular changes, and thrombosis in a few small vessels. Two of them were proved sterile, both aerobically and anaerobically. An account of the hæmolytic properties of the lipoids extracted from four degenerating fibroids was given, together with a demonstration (1) of a peculiar bleaching which develops when lipoid is added in excess of the quantity required for complete hæmolysis; and (2) of the inhibitory effect of blood serum on this process. The conclusions were drawn that red fibroids are not a group by themselves, that thrombosis is not primary, and that many of the old stains in degenerating fibroids, not necessarily *red* stains, may be due to old symptomless hæmolysis.

BRIGHTON AND SUSSEX MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on April 7th, Mr. C. J. Jacomb-Hood being in the chair.—Dr. F. J. Poynton read a paper entitled "Some Observations on Infective Arthritis." It was divided into two parts, the first, a lantern demonstration on the pathology of arthritis; the second, an outline of the mode of treatment viewed by the light of pathological advance. Dr. Poynton emphasised the difficulty of isolating micrococci from arthritic exudations in subacute arthritis. This was true alike in man and animals. Very early acute effusions might be sterile. Subacute effusions with many leucocytes in the exudation were also often sterile. The infective agent was deposited in the synovial membrane and was most likely to be found in the exudation when the process was suppurative or sero-fibrinous. He next demonstrated that a micrococcus—namely, the micrococcus rheumaticus—might, under varying degrees of virulence, produce in animals acute arthritis, peri-articular arthritis and osteo-arthritis, and brought forward proof of the causal part that this micrococcus played in rheumatism by showing the growth of this micro-organism in the pericardial exudation from a case of rheumatic hyperpyrexia, and in the pericardial fluid from an experimental pericarditis in a rabbit produced by inoculation of the human pericardial fluid. Dr. A. Paine and he had been indebted to Dr. Lauriston Shaw and Dr. A. F. Hertz of Guy's Hospital for the case of hyperpyrexia. In the second part of the paper Dr. Poynton touched upon serum and vaccine treatment in infective arthritis, upon Bier's method of passive congestion, cataphoresis, radiant heat, also upon massage and various methods of internal treatment. The outcome of these observations was to the effect that serum and vaccine therapy were as yet far from reliable, and Bier's method of passive congestion often disappointing. Cataphoresis and radiant heat in subacute arthritis of the rheumatoid type were sometimes of marked service.

NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held in combination with the Nottingham division of the British Medical Association on April 5th, Dr. A. Fulton being in the chair.—Dr. F. H. Jacob remarked on the mysterious pathology of Diabetes Insipidus, a disease in which excessive polyuria was accompanied by progressive wasting. He related one case where the only pathological lesion was cystic disease of both kidneys. Another case, a lad aged 19 years, used to pass from 10 to 15 pints of urine of a specific gravity of 1002 daily. The urea estimate was only 0·46 per cent. After some months this patient developed optic atrophy and became blind. This led him to favour the theory that the disease was due to diminished secretion of the anterior or glandular lobe of the pituitary body, as a tumour of this lobe would cause diminished secretion and experiments of excision of this lobe in dogs were followed by excessive polyuria.—Mr. W. M. Willis, in a short paper on some cases of Intestinal Obstruction, demonstrated the use of the sigmoidoscope. Of intestinal carcinomata 80 per cent. occurred in the rectum and lower sigmoid, 15 per cent. in the rest of the large intestine, and 5 per cent. in the small intestine. These figures showed the great use of this instrument. The instrument needed care in its introduction, for perforation of the bowel had been caused by it. Mr. Willis introduced it with the patient in the knee-elbow position and did not use anæsthesia. Mr. Willis then showed a specimen, sarcoma of the sigmoid, removed 12 months ago, after the diagnosis had been made with the sigmoidoscope.

PATHOLOGICAL SOCIETY OF MANCHESTER.—At a meeting of this society held on April 13th a discussion on the Chronic Results of Septic and Gonorrhœal Infection of the Female Pelvic Organs was opened by the President, Dr. W. E. Fothergill, who considered the parts played, as sources of infection, by the appendix, the rectum, and other portions of the intestinal canal, by the blood-stream, and by blood effused into the pelvis. The routes by which infection spread within the pelvis and the inflammatory reactions of the various tissues were discussed. It was suggested that septic infection produced lasting results by producing fibrosis of various structures and organs rather than by inaugurating true chronic infection. Thus "chronic septic endometritis" and "metritis" were indistinguishable pathologically from other conditions which were not infective in origin but in

which fibrosis was a leading feature. Gonorrhœal and mixed infections, on the other hand, might be truly chronic in character. One bar to the spread of gonorrhœal infection was presented by the vagina, another was afforded by salpingitic closure of the abdominal openings of the tubes. Was there not a tendency to neglect cases in which gonorrhœal infection sealed up the tubes and caused sterility and other symptoms without producing gross lesions, such as pyosalpinx? And, gonorrhœa apart, would it not be well to open the abdomen more frequently in old infective cases without strikingly obvious physical signs in order to separate adhesions, remove diseased portions of ovaries, and make new openings in sealed tubes?—Dr. D. Lloyd Roberts, Dr. A. Donald, Dr. A. H. Burgess, Dr. A. W. W. Lea, Dr. J. H. Ray, Dr. F. C. Moore, Dr. W. K. Walls, Dr. G. E. Loveday, Dr. W. F. Shaw, Dr. H. Clifford, Dr. E. Vipont Brown, and Dr. P. R. Cooper took part in the discussion.

Reviews and Notices of Books.

Male Diseases in General Practice: An Introduction to Andrology. By EDRED M. CORNER, M.C. Cantab., F.R.C.S. Eng., Surgeon to St. Thomas's Hospital. London: Henry Frowde, Oxford University Press. 1910. Pp. 462. Price 15*s.* net.

IT cannot with reason be urged that the study of the surgical diseases of the male generative organs (even if those affecting the bladder were included) presents such an important field of knowledge as gynæcology. The scope of work in the one sex can never, for obvious reasons, approach that of the other. But if we admit this, we must admit also that by no means sufficient attention has been paid in the past to the surgical diseases of the male organs. There has been no lack of scattered information and scattered details of surgical practice, but the sources of knowledge have been either diffused in general text-books of surgery or pent up in treatises on venereal disease. This volume is avowedly addressed to the general practitioner, and though the man in general practice sees perhaps less overt venereal disease than he did a quarter of a century ago, there is more necessity to be alive to the existence of latent gonorrhœa in both sexes, and the proper field for detection and arrest of this condition is the male genital tract, for "the lives of many women are spoiled through the unconscious ignorance of the men they marry." This fact alone is sufficient plea for the book.

If the arrangement of his matter by Mr. Corner appears at first glance somewhat artificial, it is unquestionably that adapted to systematic teaching, as it is based on purely anatomical grounds. In such a treatise the advantage is obvious, for the instruction afforded is surgical and the surgical operations demanded and described are mostly simple in character and scope, far more simple than many surgical manœuvres which are necessarily and constantly undertaken in the case of female diseases by general practitioners. Attention is directed first to conditions of the tunica vaginalis; and in 50 pages devoted to hydrocele and kindred conditions there is plenty of valuable information very well arranged. A chapter on the physiology of the testicle is followed by six chapters on the pathological conditions of the testicle itself. Some of the best matter in the book is embodied in the consideration of operations on the imperfectly descended testicle. The difficult questions which arise as to the proper procedure to be adopted towards an undeveloped or imperfectly descended testicle are well thought out, and the advice is judicious and conservative in tone. If there has been a tendency to remove all undescended testicles on the ground that they are liable to become the seat of malignant disease it has been based on illogical grounds. The malignant deterioration and the malposition are both the result of deficient development; attempts to improve the development of the gland by fixation of the testicle are based on imperfect reasoning.

The consideration of the subject of varicocele is very sound and in accordance with the best modern views: "Only treat those who need it." A careful summary is given of the remote results of operation for varicocele. The only operation undertaken or advised is by means of the open method and an inguinal incision. In a large proportion of cases operation has been enforced by the requirements of the military services, many of the subjects having little or no varicocele except in the estimation of the examining officers of the recruiting staff. The "cure" of the varicocele is in a large proportion of persons merely the removal of a local source of neurasthenic symptoms.

Greater care in writing would have rendered in some places valuable matter more readable. The author considers the relation of the imperfect descent of the testicle to its liability to infective orchitis; but the paragraph is almost unintelligible to us unless the word "rarely" is supplied in one passage. The chapter on the physiology of the testicle is very abrupt in expression and might be better arranged in matter; the last sentence in the chapter has no verb at all. The sections devoted to the secretions of the gland are also jerky, and the expression "for instance" is found on every page, suggesting that the author has not taken any great pains in emending what he has once set down. These lapses of style on the author's part are interesting, for they may illustrate the specialism of his mind: on surgical topics he expresses himself clearly, tersely, and well; when he approaches the physiological, medical, or mental aspect of his matter he becomes hurried and difficult to follow.

The volume is well printed and admirably illustrated and will prove a valuable book of reference in the library of general practitioners.

The Melanesians of British New Guinea. By C. G. SELIGMANN, M.D. Lond. Cambridge: University Press. 1910. Pp. 766. Price 21*s.* net.

ANTHROPOLOGY has of late years become a serious science, and it is no longer the fashion to regard savage and primitive customs as did an Elizabethan translator of Herodotus, or, rather, of his first two books. For he made a marginal note as to a statement of Herodotus about some Egyptian custom to the effect that the reader should "Observe ye Beastly Devices of ye Heathen." Nowadays we have learned by careful comparison that many heathen and primitive customs are full of profound meaning and information as to curious survivals existing among ourselves. The children of our own day, where not spoiled by over-education, go through stages of savagery both mentally and, so far as is possible in this country, physically. The cave-dwelling stage, the wedding and funeral games, the "make believe" attitude, are all remnants of the savage mind.

All readers of Mr. Kenneth Grahame's charming book, "The Golden Age," will recollect the story of "The Whitewashed Uncle." The children were anxious to show that they had misjudged their relative, and Edward said, "We'll christen the piebald pig after him—the one that hasn't got a name yet. And That'll show we're sorry for our mistake." Now hear Dr. Seligmann upon the Roro speaking tribes of British New Guinea, p. 255: "Children are named when quite young, and it is usual for a child of either sex to receive two names, the second being its father's first name, and the first the name of a relative or of any plant, animal, or natural feature that might please the parents. It was considered a compliment to choose a friend's name, but the friend would be equally honoured if his name were given to a favourite pig." So does the East meet the West by going back to primitive custom.

Dr. Seligmann's work is brimful of information upon religion and social customs, and geographical and ethnological matters. Perhaps the thing which strikes the reader most of all is the extraordinarily complex scheme of regulation and custom under which the tribes mentioned live. The customs and fashions governing marriage, childbirth, society, and religion are so involved and so complicated as to put even German or Austrian court etiquette absolutely into the shade. Dr. Seligmann limits the name Papuan to the dark skinned, frizzly haired natives of Western New Guinea, and uses the term Papuasian for the inhabitants of the whole of New Guinea, for, as he points out, the inhabitants of the island may be divided into two distinct races. One difference between these races and white races is that it would seem that impregnation is more difficult in them than in whites, and it seems a native belief that one act of coitus is insufficient for conception. This at least is the belief among the Southern Massim. Cannibalism apparently still exists among the Southern Massim, both in the form of the ceremonial killing and eating of an enemy, and very occasionally in the eating of an exhumed corpse.

As a whole the book is full of interest, it is illustrated with drawings, photographs, and maps, and it has a most excellent index and a glossary. One chapter is written by Captain F. R. Barton, C.M.G., late administrator of the Possession, and the appendix on the Mukaua community is written by Mr. E. L. Giblin.

Industrial Diseases and Accidents. By W. J. GREER, F.R.C.S. Irel., Consulting Surgeon to Pontypool Hospital; Surgeon to Newport and Monmouth Hospital. Bristol: J. W. Arrowsmith. 1909. Pp. 326. Price 7*s.* 6*d.* net.

THE arrangement of this work in alphabetical form is unfortunate, making it appear a series of scraps of information not very well ordered, proportioned, or digested. To produce a book in dictionary form implies that it is a complete book of reference on the subject, which is in this case very far from the truth. Moreover, a book in this form requires cross references, and we look up "Caisson disease," but it is not given under this title, nor is "Divers' paralysis," but both titles have to be found under "Compressed air illness." The cross references to "Ragpickers' disease," "Hadernkrankheit," and "Anthrax" are equally unsatisfactory, and "woolsorters' disease," the oldest title for anthrax, might, we think, have been given as a primary index word.

Such important conditions of industrial injury as concussion of the spinal cord and miners' bursitis are equally difficult to trace. The article "Spine" gives no reference to "concussion," but under the latter heading there are eight lines devoted to this highly important subject. "Miners' elbow" is a well-known term in all English textbooks of surgery, but it is referred to as "beat elbow," which is largely a local expression. We admit that it would be difficult in the limits of a book like this to deal adequately with such a subject as traumatic neurasthenia; but its importance is overwhelming and the subject is deserving of more space than the four pages in which it has been dismissed. Not a word is said about "bichromates," as a reference; we are left to trace the subject under "Chrome." No attempt has been made to give practical utility to the volume by adding a synopsis of regulations affecting dangerous trades. A special section devoted to injuries and diseases of the eye has been assigned to Mr. R. J. Coulter, but the author seems to omit the industrial poisons which produce optic neuritis—such as lead, nitro-benzol, or zinc.

We regret to speak in such uncomplimentary terms of a work to which no doubt much trouble has been given, but we cannot regard the book as likely to be of much service to the medical practitioner. These indexed pieces of information on anatomy and on surgical and medical terms would afford information to solicitors' clerks, overseers, and secretaries to societies, but we cannot imagine a medical man who has any difficulty to face in the diagnosis or treatment of industrial accidents or disease finding much help here. The author, quite probably, has underestimated the grave difficulty of writing a dictionary, to perform which task even moderately well not only a great range of theoretical and practical knowledge is required, but a sense of proportion, order, and responsibility which many a thoroughly skilful professional man may be without. Now such a dictionary, as has been projected, would certainly be very useful, and we suggest that Mr. Greer should work upon this first edition, remedy the omissions, and bring order and proportion into the work. The task would not be easy; but so much labour has been spent that it might be worth while to bring the undertaking to a more satisfactory result.

Atlas der Menschlichen Blutzellen. Von Dr. ARTUR PAPPENHEIM. Zweite Lieferung. Tafel XIII.–XXV. Jena: Gustav Fischer. 1909. Pp. 571 and plates 13–25. Price 30 marks.

WELL may the author quote the old adage, "Tempora mutantur, nos et mutamur in illis." It appears that the plates were drawn and ready many years ago; in fact, a reference to some of them shows that the original drawings were made in 1901 and 1903. The text runs to over 500 pages, and the plates are but 13 in all, and the text is largely explanatory of them. The plates were ready; the text lingered, mainly because of the continual flux of the subject matter itself, and of the diversity of views on the cardinal problems of hæmomorphology. The plates are drawings of leucocytes stained in various ways, with hæmatoxylin as a nuclear stain, combined with various aniline dyes or combinations of such dyes. The author admits that the methods used, though the best available at the time—he speaks of old imperfect methods—are not to be compared in value to the method of Giesma, which he admits is a very superior method, and the one most likely to throw additional light on the structure of leucocytes and the problems of hæmomorphology. The text grew as the author kept on investigating, and so it came about that it was determined to issue this part of the atlas, which is called the "Schluss" or final part, but which appears not to be final. The original number of plates was to be 25, and they were to include the red blood corpuscles and the cells of myeloid leukæmia. They do not do so, and having regard to the great value of the Giesma and other stains, it has been decided to issue a supplementary part, consisting of plates and explanatory text, to complete the work and to give illustrations of staining by the May-Grünwald, Giesma, and other methods. The author apologises for what he considers imperfect lithography in two of the plates.

We have made the author's apologies in his own way for such shortcomings as the book may have; it remains to say that he discusses with fulness, thoroughness, and "gründlichkeit"—we had almost said prolixity—the most varied hæmocytological problems and gives the most intricate details of the structure of cytoplasm and nuclei of the various forms of leucocytes, theresult of his own painstaking and laborious investigations. He concludes that the so-called polymorphonuclear transition forms of Ehrlich, as independent lymphoid cells, are not direct or indirect transition forms and pre-stages of polynuclear granular cells, but are rather the end stage of the development of the large mononuclear leucocyte (splenocyte, lympholeukocyte). The transition forms in normal blood have no amphophil, pseudoeosinophil or neutrophil granules,

but are merely "azurophil" cells. This terminology—and there is much in the work of greater complexity—shows at once how elaborate is the technique. The author seems to favour the theory that lymphocytes and myeloid cells spring from some common "stammzelle" which he calls a hæmatogonia. Most careful descriptions are given of the plates, even to the minutest details of technique, so that many pages of the text may be devoted to one plate.

Part II. (pp. 164–500) contains more descriptions of plates and also deals with the following problems in a very full, precise, and technical manner: theoretical observations on colour theories as to the differential combination of dyes with aniline colours, and on the combination of staining mixtures with the use of basic nuclear dyes; the leucogenic significance of the individual morphological cell types which are described in the text, and the morphological changes in the genetic development of the leucocytes. Finally, there is a long technical chapter on the morphological characters and differences, as well as the respective genetic relations of the different forms of leucocytes to each other, with remarks on the "morphological tinctorial relation" of lymphoid leucocytes in particular to lymphocytes and granular lymphocytes.

It is impossible to convey an idea of the amount of painstaking labour that has been spent on this atlas, the wonder rather is how it was all done. So far as we can judge, the very elaborate fulness of the matter, with the admitted imperfections of the methods used, will cause the work to appeal to the specialist in leucocyte work rather than to the practitioner, although the plates show leucocytes from all forms of diseased conditions. Even the specialist may find the text too drawn out. Be that as it may, the author is tremendously in earnest and has elaborated his theme with true German thoroughness. We shall be glad to welcome the supplementary part, in which we hope the author will give a *résumé* of the main advances and present bearing of a subject of great complexity but of much practical importance to the morphologist, physiologist, and practitioner.

LIBRARY TABLE.

Science, Matter, and Immortality. By RONALD CAMPBELL MACFIE, M.A., M.B., C.M. London: Williams and Norgate. 1909. Pp. 300. Price 5*s.* net.—This book is a popularly written and somewhat flamboyant account of modern and ancient views upon atoms, electrons, the ether, cosmogonies, nebulæ, and kindred subjects. There is but little about immortality in the work, that is to say, considering immortality in its theological sense, although in his closing paragraph Dr. Macfie utters the truism that, "Conceived aright, science must always lead to belief in the unseen and to hope of immortality ....." The chapter upon Lucretius is one of the best in the book and Dr. Macfie ends it with a striking aphorism. After mentioning that "it is as necessary for culture to understand ancient views of matter as ancient views of God," he continues: "The sun of Truth can be rightly viewed only by means of the parallax obtained at the extremes of Time." In his chapter on Cosmogonies we think that Dr. Macfie scarcely gives Kant enough credit for his share in the nebular hypothesis, for Kant certainly evolved this theory prior to Laplace. But a study of Dr. Macfie's book may lead those desirous of knowing more about modern theories of matter and energy to study the subject in more extended treatises, and in this way it is useful.

Pulmonary Tuberculosis and Sanatorium Treatment. By D. J. A. CHOWRY MUTHU, M.D. Brux., Physician, Mendip Hills Sanatorium, Wells, Somerset. London: Baillière, Tindall, and Cox. 1910. Pp. 201. Price 3*s.* 6*d.*—The object of the author in writing this work is to give a brief survey of "the scientific, the sanatorium, and the social aspect of tuberculosis," and while he expresses views which will not meet with general acceptance, his book is an interesting one and the practical details are sound and instructive. His main theme is the importance of trusting Nature. Dr. Muthu suggests that long ages of civilisation and hereditary influence have not only created conditions for the preparation of the human soil, but that in this altered atmosphere the nature of the seed, the micro-organism, has also changed its character. Elaborating this argument, he states the opinion that micro-organisms begin their life as saprophytes and help in various natural processes of life, "but vicious environment changes their character, so that they take on new properties and become pathogenic." Dr. Muthu then discusses the conditions under which he believes the virulent properties are acquired. He maintains that this change is brought about by alterations in their environment which affect their constitutional properties; further, he says, this altered environment is greatly the outcome of the conditions of civilisation and may be provoked by many factors. The circumstances he mentions are: (*a*) a lowered vitality caused by a wound, previous disease, overcrowding, physical and mental strain, and other evils of modern town life; (*b*) increased nutrition, rich living, undue consumption of nitrogenous matter; (*c*) foul air, charged with organic impurities, and other insanitary conditions; and (*d*) frequent contact with people in towns and cities and ill-ventilated buildings. Whilst admitting that these conditions are conducive to ill-health and the spread of disease, we are not prepared to allow that they can transform harmless germs into tubercle bacilli. The discussion on the principles of the open-air treatment is well written, and the details of the life in a sanatorium are described in terms which are easy to understand and appreciate. The social and economic questions in connexion with tuberculosis are considered in moderate terms and no extreme views are adopted. We were much interested in reading this work, although, as we have said, it contains certain opinions with which we are not in sympathy.

Sleep and Sleeplessness. By HAYDN BROWN. London: Hutchinson and Co. 1910. Pp. 160. Price 2*s.* 6*d.* net.—This work belongs to a class which, as a rule, in our opinion is perilous—namely, a book on a medical subject written for non-medical readers. However, insomnia is very common, and many persons drug themselves, so Mr. Haydn Brown's remarks about the evils of drug-taking have some justification. These chapters and the final one of the work are the best parts of the book. We are glad to see that Mr. Brown lays stress on the necessity of sleepless patients, or those suffering from neurasthenia, consulting a medical man, for persons of this type are just those who fly to quacks. But, as a whole, the book exhibits the fault which nearly every book of its class does exhibit: there is too much medicine for the layman and nothing new scientifically for the trained reader, if such a one should read it. We do not think Mr. Brown correct in calling an astronomical telescope "a very big powerful microscope," though the optical principles of the one are much the same as of the other. In the chapter on simple inducements to sleep, one which is both potent and in many cases easily obtainable is not mentioned—namely, a run of 50 miles or so in a motor-car.

Neighbours and Friends. By M. LOANE. London: Edward Arnold. 1910. Pp. 322. Price 6*s.*—This is another of Miss Loane's admirably written and sympathetic books about the poor. Miss Loane, in her capacity as a Queen's nurse, has every opportunity of witnessing the inner life of the poor and of seeing them at their best and at their worst. Anyone who works successfully among the poor must be possessed of an optimistic temperament and, above all, of

a sense of humour; and Miss Loane evidently has both. For instance: "A few days ago a repulsively dirty matron clasped me warmly by the hand, exclaiming, 'You're a lady like meself, though I'm a bit in my dishabeels.' Just before this a slight misunderstanding had driven her to the extreme course of calling me a woman. The misunderstanding had not been cleared up; it had simply been blown to the futhermost limbo by the chance discovery that I had given myself the trouble to be born in the same parish, and at about the same date as she had been married to her first husband." A chapter dealing with nurses and entitled "Vocation," we can thoroughly recommend to any young woman who is thinking of becoming a nurse to read and ponder over. Miss Loane deserves thanks for a most instructive and amusing book.

JOURNALS AND MAGAZINES.

The Fifteenth Bulletin of the Sleeping Sickness Bureau.—This number of the *Bulletin* keeps well up to the high standard of its predecessors. It contains an abstract of an important paper which was read at a recent meeting of the Royal Society by Professor E. A. Minchin and Dr. J. D. Thomson on the Transmission of Trypanosomes, dealing more particularly with the transmission of T. lewisi by the rat flea. The experiments were made with fleas which had been bred in flea-proof cages in the laboratory. The conclusions derived from the investigations were that the rat flea can transmit the T. lewisi from infected to healthy rats, and that this transmission takes place by a cyclical method and not by direct transference. The developmental cycle period in the flea has a minimum of six or seven days but may be longer; the multiplication period of the trypanosomes in the rat is about 12 days. In the developmental cycle the establishment of the trypanosomes in the flea begins with multiplication of crithidia-like forms in the rectum. Among other papers in the *Bulletin* may be mentioned those relating to the leucocyte formula in trypanosomiasis, the influence of other infections on this disease, the treatment of trypanosome infections, trypanosomes with "blepharoplasts," trypanosoma vivax, life-histories of trypanosomes in vertebrate blood, &c. The number also contains the latest sleeping sickness news, and the monthly list of references is continued. We have also received from the Sleeping Sickness Bureau the "Subject-Index to the Bibliography of Trypanosomiasis," compiled and arranged by Mr. C. A. Thimm, the librarian of the Bureau, with additional references and corrections. This subject-index will prove invaluable to all those who are engaged in work connected with trypanosomiasis.

The Medical Chronicle.—In the April issue Dr. R. W. Marsden and Mr. C. Powell White describe a peculiar tumour of the palate which seemed to belong to the class called cylindromas, and Mr. Garnett Wright discusses gallstones from a clinical aspect, dividing them into cases accompanying chronic, acute, and suppurative cholecystitis and cases characterised by jaundice. Dr. C. Paget Lapage publishes a contribution to the study of infantile mortality, analysing the causes of this condition; and Dr. R. T. Williamson reviews recent literature on the subject of acute anterior poliomyelitis, which has been experimentally transmitted from man to monkeys and from animal to animal.

Edinburgh Medical Journal.—A further study of the bacteriology of suppuration in the accessory sinuses of the nose, by Dr. A. Logan Turner and Dr. C. J. Lewis, appears in the April issue of this magazine. The authors conclude, among other things, that of the many bacteria which may be responsible for such affections pyogenic cocci are the commonest; that nasal infection of the antrum is more common than dental; and that while recent cases of suppuration in this cavity are readily cured by lavage, prognosis is doubtful in chronic cases, a large number of lymphocytes in the discharge being of evil omen. Dr. H. M. W. Gray writes on the diagnosis and surgical treatment of cancer of the stomach, Dr. George L. Chiene gives notes of a case of traumatic subcoracoid dislocation of both shoulders, Dr. James W. Keay describes some details of technique in perineorrhaphy, and Mr. J. M. Cotterill records examples of snapping hip and snapping finger.

The Bristol Medico-Chirurgical Journal.—The March number opens with a very interesting paper by Dr. James Mackenzie Davidson on radium, in which is given an account, not only of the peculiar properties of this substance, but also of the conditions in which it is useful therapeutically. Among these are some diseases of the eye, and also, curiously enough, forms of dermatitis caused by X rays. Dr. Carey Coombs writes on diffuse destructive changes in the liver associated with jaundice—the group of conditions which is usually called acute yellow atrophy of the organ, but which, as he points out, shows changes other than atrophy and need not run a very acute course. Mr. Hugh P. Costobadie contributes a short paper on hypnotism, and illustrates the light that may be thrown on psychological problems by a study of hypnotic phenomena; and Lieutenant V. B. Green-Armytage, I.M.S., records some curious oriental medical customs seen in India and Burma.

The Birmingham Medical Review.—The March issue of this magazine contains two papers of considerable interest from the point of view of heredity. In the first Mr. Priestley Smith discusses this principle in relation to national welfare, showing the truth of the Mendelian laws as applied to the human species, emphasising the degeneration which seems to be affecting our own country. In the second Dr. James E. H. Sawyer describes a case of Huntington's chorea, and gives a table showing the incidence of the disease in two generations. The patient actually seen by him was a man, aged 38 years, who had suffered from the trouble for two years but seemed quite unconscious of his malady, possibly owing to the degree of mental defect which it had produced.

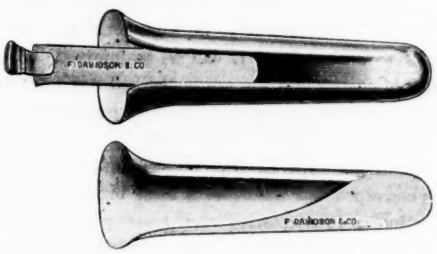
West London Medical Journal.—In the April number is published a paper by Mr. Donald J. Armour on the treatment of tumours of the brain; the writer takes a hopeful view of the value of surgical measures both for the cure and the relief of such conditions; indeed, he seems hardly to admit that there are any cases in which such treatment cannot do good. Dr. T. Grainger Stewart writes on affections of the brain due to vascular disturbance; and Dr. Julius M. Bernstein discusses infective endocarditis and analyses 20 fatal cases in which bacteriological examinations were made and showed the presence of several different germs. Dr. Seymour Taylor contributes a brief note on examination of the urine, emphasising the value of picric acid as a test both for albumin and for sugar.

THE EMPEROR OF JAPAN AND THE SEAMEN'S HOSPITAL.—On April 13th the Japanese Ambassador unveiled a bronze tablet which has been placed over a bed endowed by the Emperor of Japan at the Seamen's Hospital, Greenwich. In performing the ceremony the Ambassador said that this was the first opportunity that had presented itself to him for intimating the indebtedness of the Japanese nation to the hospital for the care and attention which were bestowed on Japanese seamen who were admitted to the wards of the hospital. The tablet is oval in shape and bears in the centre the inscription, "The Chrysanthemum Bed, 1908," surmounted by the Japanese emblem of the rising sun, with chrysanthemums on either side.

New Inventions.

IMPROVED RECTAL SPECULUM.

FOR rectal examination, combined with the injection treatment of hæmorrhoids as practised by Dr. Eugene Hoyl of New York, the speculum ordinarily used in this country is Hilton's with Bryant's modification. In withdrawing this speculum, however, the piles tend to catch on the more or less sharp edges, causing much pain to sensitive patients. Messrs. F. Davidson and Co., of 29, Great Portland-street, London, W., have at my suggestion manufactured a speculum

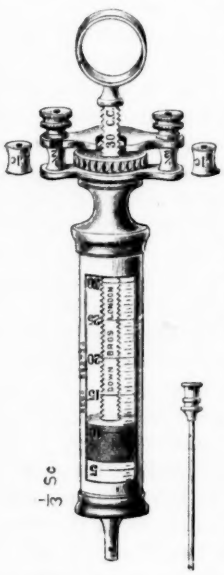


by which this difficulty is overcome. As shown in the accompanying illustration, the improved speculum is cone-shaped, with a sliding piece which on partial withdrawal causes the piles in the exposed area to appear. The slope in the wall of the speculum is very gradual, with smooth and rounded edges. The sharp and more or less cutting edges peculiar to the old form are avoided, so that the withdrawal of the instrument is quite easy and painless.

Seymour-street, W. JAMES SEARSON, M.D. Brux.

A NEW SYRINGE FOR DELIVERING ACCURATE VOLUMES OF TUBERCULINS OR VACCINES.

THIS syringe has been designed to provide a means by which glass "ampoules" may be rapidly and accurately filled with definite quantities of fluid. The amount of fluid ejected from the syringe into each "ampoule" is regulated by means of bosses in conjunction with a screw disc stop, the latter regulating the descent of the plunger to the height of the particular bosses employed (0·5 cubic centimetre and 1 cubic centimetre bosses are usually supplied with the syringe). The thread on the piston-rod is of a rapid type, upon which the disc stop travels quickly on receiving a slight impulse from the finger. The syringe is so constructed that every part may be sterilised by boiling, and the plunger, which is of asbestos, will absorb sufficient moisture during the process to act as an efficient lubricant. These syringes have also been made with metal plungers, but the asbestos plungers have proved to be more easy and less costly to maintain. Messrs. Down Bros. owe the suggestion to produce such syringes to Dr. J. W. H. Eyre, who has employed them for some considerable time in the Bacteriological Department of Guy's hospital, where they have given every satisfaction.



Looking Back.

FROM

THE LANCET, *SATURDAY*, April 21st, 1832.

DISINFECTION BY HEAT.

LETTER FROM DR. HENRY IN REPLY TO THE STATEMENTS OF MR. WALLACE.

To the Editor of THE LANCET.

SIR,—Having long ceased to be a reader of periodical works on medicine, the letter of Mr. Wallace,[1] in the 446th number of your Journal, might have entirely escaped my notice, had it not been sent to me a few days ago by a friend.

Until I read that letter, I was totally ignorant that any person but myself had ever directed his attention to the disinfecting powers of high temperatures. This distinct and unqualified declaration will at once satisfy all who know me. To those who do not I offer the following explanation.

The occasion which first induced me to undertake an inquiry into the disinfecting powers of heat arose in the summer of 1824, out of a pressing emergency. Cargoes of raw Egyptian cotton, of the value of upwards of twenty thousand pounds, had been long detained under quarantine at Milford Haven, to the great injury of the owners; by whom I was earnestly requested to suggest some method of shortening the time of expurgation. A few days only were allowed me for considering the subject, and performing the experiments, the results of which led me to propose the application to the raw material of a *dry heat*, obtained, for security to the goods, by means of steam. This proposal was immediately communicated to the owners; but the early liberation of the cargoes rendered its adoption unnecessary. It was, at a subsequent period, laid before the late Right Hon. Mr. Huskisson,[2] by a most respectable deputation of Liverpool merchants; and every facility for trying it was promised by that gentleman, if any similar exigency should in future arise.

After the lapse of seven years, I was induced, last August, to resume and extend the inquiry, by the threatened approach of Asiatic cholera to our shores. Led by a train of reasoning on the corpuscular arrangement of the elements of animal compounds, I made the experiments on the destructibility of the contagions of cow-pox, typhus, and scarlatina, which are related in the Philosophical Magazine for January last. That I might not, however, incur the risk of trespassing on ground already, without my knowledge, occupied by any one else, I inquired of several professional friends, whether their reading furnished any instance of similar views. Among others, I consulted Dr. Traill (president of the Philosophical Society, and physician to the Infirmary at Liverpool), as one distinguished not only by his extensive acquisitions in science, but in medical literature. After carefully searching the volumes most likely to afford such information, he expressed his belief that my views and experiments were entirely original. This, too, is the uniform tenour of the opinions (now in my possession) of other physicians of acknowledged learning.

My earliest views respecting disinfection (it must be kept in mind) were entertained by, and the proposal arising out of them suggested to, the owners of the cotton, in August 824. Early in 1825, Mr. Wallace, it appears, published a tract entitled, "An Account of the Apparatuses for the Treatment of Rheumatism and Diseases of the Skin which have been constructed at the Dublin Skin Infirmary." A copy of this, it seems, was sent by the author to the library of the Manchester Infirmary, in February 1825. But having retired many years before that period from the office of physician to that institution, and having long relinquished medical practice and medical studies, I never heard of Mr. Wallace's book, or of its contents, till I read his letter a few days ago. Having now examined the copy alluded to, I find that the whole of what it contains respecting disinfection by heat, is the paragraph of fourteen lines copied into THE LANCET (p. 855); but that not a single line is to be found in it respecting the experiments on the destructibility by heat of the poisons of cow-pox, small-pox, and syphilis, to which Mr. Wallace lays claim at p. 856. To any other source of information respecting his views I never had, nor could have had, access. He cannot expect that I should be acquainted with what he may have taught in lectures, or communicated through channels not open to the public at large.

Yet, on these slender grounds has Mr. Wallace, an entire stranger to me, founded an insinuation, too plain to be misunderstood by any one, that I have appropriated to myself information taken without acknowledgment from him. His right to claim whatever he may think belongs to him I do not dispute; but he is not justifiable in imputing to me an offence, degrading (if there were the slightest foundation for the charge) alike to my moral and scientific character, and in doing so, he has himself offended against the rules of candour and of justice.

I am, Sir,

Your obedient servant,

WILLIAM HENRY.

Manchester, April 5, 1832.

---

1 *Vide* "Looking Back" in THE LANCET of March 19th, 1910, p. 817.

2 Mr. William Huskisson, President of the Board of Trade, died as the result of being run over by a locomotive at the opening of the Liverpool and Manchester Railway in 1830, just after being greeted by the Duke of Wellington. In his early days he was intended for a medical career.

THE LANCET.

LONDON: SATURDAY, APRIL 23, 1910.

Antisepsis and Asepsis in Midwifery Practice.

THE efficient safeguarding of the mother during childbirth from the danger of septic infection is a problem which presents many difficulties from the practical point of view. If we accept the teaching that all cases of puerperal septicæmia are due to the introduction of pathogenic organisms or their toxins into the patient's body from without, then in uncomplicated cases of labour the danger can be averted to a large extent by the avoidance, as far as possible, of any manipulation, such as a vaginal examination, which might result in the contamination of the patient. While this is usually easy in a normal case it is impossible in any case of difficulty, and at least one vaginal examination must be made, as a rule, in every case of labour, even of the most uncomplicated and straightforward type. Since the conduct of a case of labour without any vaginal examinations requires a greater degree of training and practice in abdominal palpation than fall to the lot of many students and most nurses, we must of necessity take care that internal examinations, which must be made, shall be as little dangerous as is consistent with the exigencies of private practice. How this end is to be attained best is a problem which teachers are by no means unanimous in answering. In a letter to the Master of the Rotunda Hospital, Dublin,[1] a correspondent puts the very pertinent question as to what procedure the former would recommend with a view of preventing most certainly the occurrence of any septic trouble if called upon single-handed to deliver a patient of a fœtus or placenta and at the same time to keep the patient fully anæsthetised. He also asks for some suggestion as to keeping forceps sterile after they have been boiled when they are not required for immediate use.

It is obvious, in attempting to give a practical answer to such a query that we must first decide very clearly whether we intend to practise asepsis or antisepsis. Is the aseptic treatment of a case of labour in private practice possible, or even desirable, and if it is, does it in these circumstances present any advantages over the antiseptic method of treatment? It appears to us that no profitable discussion of this question can be carried on unless to start with a clear distinction is made between these two methods of treatment. In our opinion, perfect asepsis is more difficult to maintain than perfect antisepsis, and the former method is more likely to break down in unfavourable surroundings, while if any failure takes place the consequences are more likely to be serious. When we consider the large amount of care and the elaborate precautions which are required for the successful practice of aseptic surgery, and when we contrast the surroundings of the modern operating-room with those met with in most cases of midwifery in private practice, it is obvious that there can be no real analogy between the two. Further than this, if we were asked which required the greater degree of surgical training and the highest development of the so-called surgical conscience, we would at once answer the practice of aseptic surgery. For these reasons in attempting to answer the questions put to the Master of the Rotunda we would regard the maintenance of strict aseptic precautions in ordinary midwifery practice as a matter of considerable difficulty, in which view we believe we should have the concurrence of the great majority of the teachers of midwifery in this country. Asepsis is superior to antisepsis if it can be maintained, but in the present circumstances we are concerned not with surgical operations carried out under the best conditions but with operative midwifery carried out only too often under very bad conditions. Dr. E. HASTINGS TWEEDY in his answer to his correspondent describes a most ingenious method of conducting a labour, with the least possible danger to the mother of septic infection, in the circumstances indicated, which, however, depends for its success upon the practice of strict asepsis. He relies upon the use of sterile rubber gloves and of sterilised instruments if we understand him rightly, and apparently lays but little stress upon the employment of antiseptic lotions either for the hands, the gloves, or the instruments used. Rubber gloves in the conduct of labour cases are very useful, always provided that sufficient care is taken to render the hands as sterile as possible, that the rubber gloves themselves are protected by the use during the confinement of antiseptic lotions, and that the further precaution is taken, which is insisted upon in most lying-in hospitals, of never touching the patient except with hands wet with an efficient antiseptic lotion, even if covered with rubber gloves. It is, however, a debateable question whether midwives should use rubber gloves or not; they are even at the present day costly articles, they rapidly deteriorate, require careful cleansing and sterilisation, and a careless nurse or midwife is not likely to take any more care of her rubber gloves than she does of her hands. They are especially liable to be torn in midwifery practice if instruments are employed, and if used as part of an aseptic technique require a greater amount of care to prevent them from contamination than is the case if they are worn in conjunction with the use of efficient antiseptics. Dr. TWEEDY considers that a benefit to humanity would be conferred if the Central Midwives Board compelled the universal adoption of rubber gloves among midwives. If there was any means of ensuring that such gloves would only be worn when intact and after a careful preparation of the hands by washing and the proper use of antiseptics, then certainly we would agree with this suggestion, but when we see how the habitual use of rubber gloves only too often produces a certain degree of carelessness in the proper cleansing and disinfection of the hands on the part of dressers and even of some surgeons, we shudder to think of the condition of the ordinary midwife's hands if she thought that she could always safeguard her patient from

[1] THE LANCET, April 9th, p. 1026.

infection by the use of rubber gloves. We admire the very ingenious manner in which the Master of the Rotunda arranges for the carrying out of the various manipulations, first with one gloved hand and then with the other, during the course of a labour lasting perhaps for some hours, but at the same time we wish that he had laid greater stress upon the use of antiseptics, since we believe that in this way the safety of the patient still more certainly would be assured. The chief reason for substituting aseptic surgery for antiseptic surgery is the injury inflicted upon the living tissues by the use of strong antiseptics, but this reason is of little importance in the conduct of a case of labour where the lotions are applied mainly to intact skin or mucous membranes; and since it is easier for a person with but little training in unfavourable surroundings to carry out the practice of antisepsis rather than that of asepsis, we regard the practice of asepsis as more difficult than that of antisepsis and therefore less likely to be certainly accomplished in private midwifery practice. The protection of the patient in these cases should be assured by means of the most certain and the most simple measures, and by such means as are least likely to fail in the emergencies which may occur in this class of practice. The use, therefore, of measures which, when properly and intelligently applied, are of the greatest value, but which present special difficulties and dangers unless practised in this most thorough manner, appears to us to require safeguarding. This can be readily accomplished, not only by the wearing of rubber gloves, the most important safeguard of all, but further by the intelligent and conscientious use of antiseptic lotions and the observance of strict surgical cleanliness. In this respect alone would we wish to amend a little the advice given by the Master of the Rotunda Hospital. To surgeons accustomed to operating in hospitals, surrounded by all the highly organised technique of aseptic surgery, and assisted by workers all trained to the highest degree in the observance of the necessary details, it is often a little difficult to realise how easily such a system may break down in other surroundings. For our part, while we cordially agree with Dr. HASTINGS TWEEDY'S methods, we would like to render the likelihood of any failure on the part of the practitioner more remote by advocating the employment in all such circumstances of both asepsis and antisepsis. In this way he will doubly safeguard his methods from any risk of failure and his patient from the danger of infection. At a recent discussion on the treatment of labour in contracted pelves one of the speakers expressed the opinion that the use of rubber gloves was merely a passing fad and one not likely to survive. This is a view with which we cannot agree. When used intelligently, and with due regard to the surgical cleanliness of the hands, rubber gloves are undoubtedly a most valuable addition to the surgeon's outfit; it must be remembered, however, that their cleansing and preparation requires special care, and must be done with extreme conscientiousness if they are not to prove an actual danger to the patient. If the gloves are torn the gloved hand may be a more potent factor in the production of sepsis than if no glove at all is worn, and for this reason some of the strongest upholders of the principles of asepsis do not wear them. In operative midwifery, as we have said, they are extremely likely to be torn, and unless they fit well are a hindrance to the introduction of the hand into the genital passages.

Dr. HASTINGS TWEEDY has given further a long list of all the things to be done when a case of midwifery is undertaken single-handed. Now although it is true that there are many things to be attended to, yet there is ample time, fortunately, in most cases, in which to carry them out, provided that the attendant makes proper preparations beforehand, for the various emergencies which may occur. Just as in the preparation of the hands we must depend upon antisepsis as well as asepsis, so in the disinfection of the instruments used asepsis alone is not sufficient. After boiling, the safest plan is to immerse the instruments in some efficient antiseptic lotion such as lysol, and to use them direct from that. The chances of contamination in a midwifery case are many, and no other plan is so safe in all instances. For the easy administration of chloroform in these cases the use of a Junker's inhaler is found by many to be the most convenient, and the method is simpler and in some respects safer than the administration of chloroform on a mask. In such details, however, every practitioner will follow the routine recommended to him by his experience. The main point which we wish to make is that the first essential in every case is the conscientious and efficient use of a combination of asepsis and antisepsis, as far as possible, in all conditions, and above all the avoidance of meddlesome midwifery. As to the manner of carrying out the details of such treatment no doubt there is room for a legitimate difference of opinion, but so long as this principle is strictly adhered to we do not think a patient would run any undue risk of infection, even when a difficult case of labour had to be undertaken without any assistance.

The Surgery of the Lymphatics.

THE lymphatic system has been, as it were, the Cinderella of anatomy, and surgery has thought it of but small importance. The student in his dissection learns little of the lymphatic vessels and he pays no attention to lymphatic glands unless they happen to be enlarged. Yet many years ago much work had been done on this subject, and SAPPEY'S monumental treatise suffices to show how extensive has been our knowledge of the lymphatic system for many years. Up to a very recent date surgery has contented itself with excising enlarged lymphatic glands, especially when the cause of enlargement has been tuberculosis or malignant disease. A definite change of view is now to be seen. Our knowledge of many obscure points in the minute, and even in the gross, anatomy of the lymphatics has been increased, and Professor STARLING, in his work on the fluids of the body, has advanced our knowledge of lymphatic physiology. Much has also been done of recent years in the pathology and surgery of the lymphatics, and to this advance Mr. W. SAMPSON HANDLEY has contributed in no small degree; while his recent Hunterian lectures at the Royal College of Surgeons of England on the Surgery of the Lymphatic System will bring the whole subject forcibly before the medical profession.

Mr. HANDLEY dealt mainly with the subject of the surgical

treatment of the brawny arm which occurs in a certain percentage of cases of cancer of the breast. His first contribution to the subject went to prove that this intensely painful condition is caused, not by pressure on the axillary vein, as was generally believed, but by obstruction of the lymphatics. This was an important step, for until a correct knowledge of the pathology was attained treatment would probably be of little avail. To the operation which he devised he gave the somewhat uncouth name of lymphangioplasty. It consists in the introduction of silk threads longitudinally in the subcutaneous tissue of the affected limb, which were intended to serve as new lymphatic channels. Mr. HANDLEY, before he first employed the method, had convinced himself that silk might lie in the tissues unabsorbed for as long a period as ten years, and the examination of a piece of silk removed after a prolonged sojourn in the tissues showed that though superficially eroded the main substance of the material was intact, and that the interspaces between the ultimate fibrils of the silk had not been obstructed by wander cells or so far as could be seen by any clotting of the tissue fluids. When, therefore, two years ago Mr. HANDLEY was asked to amputate an arm which had become dropsical as a result of carcinoma of the breast, he suggested the burying in the subcutaneous tissue of the arm of strands of silk which should act as new lymph-channels. This operation he performed, and thus he succeeded in relieving the pain and the swelling during the remainder of the patient's life. This was a very distinct advance, for, though the operation is purely palliative and cannot prolong life or modify the downward course of the disease, it can relieve all the pain which is not due to pressure on the nerves. This relief from pain is generally complete within twenty-four hours of the operation, and soon there is a marked and rapid diminution in the tension of the tissues of the whole area drained by the silk threads, so that the arm is soft in place of being hard and brawny, being also much diminished in size. If the operation has not been deferred too long there is a return of power to the paralysed arm, and the general condition is improved, for no longer is the patient tormented by the constant pain and loss of sleep, so that sedatives and hypnotics are but little required. The technique of the operation is simple: it consists merely in passing the threads by means of long probes from incisions near the wrist; when the probe has carried the thread as far as it can the surgeon cuts down upon its end, and through this opening the probe is reintroduced, and the thread is carried still higher in the limb. The upper ends of the pieces of silk are left embedded in the subcutaneous tissue of the back, a little below the scapula. Four double threads are inserted, one on each margin of the limb, both in front and behind. The most essential point in the treatment is the maintenance of a perfect asepsis in the silk used, and this is not easy, for there is risk of contamination at each opening in the skin.

Lymphangioplasty has been employed by Mr. HANDLEY in 15 cases, and the results have necessarily varied according to the conditions present. The most satisfactory results are obtained where the malignant disease has been of long duration, no discoverable mass of carcinoma is present, and no ulceration exists. When masses of new growth are present it is difficult to decide how much of the pain is due to nerve pressure and how much to the œdema. The mere presence of a growth in the axilla or above the clavicle is no bar to the operation, but relief was obtained in only half these cases. Even the presence of ulceration does not negative lymphangioplasty, but it is necessary to clean the ulcers and to shut them off from the field of operation. Even when pleural effusion is present and the balance of life remaining is likely to be short, lymphangioplasty may prove of service by relief of pain. In one case the patient was almost moribund, with thoracic cancer and pleural effusion, and suppuration occurred along the line of silk. Death followed a week later, and it is doubtful if her life was at all shortened by the operation. Lymphangioplasty has also been employed with success by Mr. A. B. MITCHELL of Belfast in cases of lymphatic œdema of the eyelids following erysipelas. Mr. HANDLEY has also employed the operation devised by him in cases of elephantiasis, but without success, yet his attempt has not been wholly in vain, for he has obtained evidence pointing to the probability of a microbic infection being a contributory cause of the production of this condition, and a vaccine may prove useful if employed at an early stage.

Another portion of the lectures dealt with the operative treatment of ascites. The Talma Morison operation, though of immense value in some cases, often fails. Dr. ESSEX WYNTER suggested the drainage of the ascitic fluid into the tissues, and Mr. HANDLEY performed drainage through the femoral canal, and in some of the cases success followed, but there are many difficulties to be overcome yet, and it cannot be said that up to the present the best method of operating has been settled. In Mr. HANDLEY'S lectures there was much that was new, and though time is needed to test the value of his operations we can at least feel sure that he has made contributions to surgery which will prove of permanent value by advancing our knowledge and our power of dealing with the lymphatic system.

A National Dental Scheme.

A LARGE sum of money has been placed at the disposal of Mr. B. C. RAYNER, secretary of the British Dental Association, in order that that body may put upon a working basis a scheme of dental treatment which is to be national in its scope. We briefly announced the fact last week. Under this scheme those classes of the community who are able to pay certain fees for dental care, but who cannot afford the charges of private dentists, are to obtain assistance of good quality at a moderate rate; and the scheme would be an example of private philanthropy coming to the assistance of the State at the time when the need of the State has been very clearly revealed, if it could be made certain that the benefits could be confined to those whom it was designed to aid. The inspection of school children has shown that the dental conditions prevalent in this country are extremely bad. Those who have inspected the children at the State schools have reported in different parts of the country even 80 or 90 per cent. of the children as having decayed teeth; and

without taking these appalling instances into account we shall be quite safe in believing that systematic dental inspection has already shown that nearly half of the class which receives State education have a certain number of carious teeth. Some large plan of therapeutics was therefore indicated, but it remains to be seen if the scheme now under consideration will meet the case. We understand that the sum placed at the disposal of the British Dental Association amounts to £200,000, and that the donor believes that the establishment of dental clinics, at which small fees will be paid, in course of time would turn into a self-supporting affair, realising interest at 5 per cent. while discharging work of incalculable value to the country. Such is the amount of dental work to be done, and such is the economy that can be practised by doing it on a large scale, that we believe the forecast of a pecuniary profit to be a safe one, but what are the guarantees that care will be taken lest persons should obtain the advantages of the scheme who could very well afford to pay the fees of a private practitioner? The dental hospitals already treat a considerable number of patients whom they feel to be no proper recipients of charity, but here there is the enormously important educational side to be remembered. The hospitals might welcome the assistance to their work which is implied by the possibility of drafting to other establishments an appreciable part of their *clientèle*, for throughout the country they require their space to meet the increased activity of the public with regard to the care of the teeth. But the practising dentist will see a good deal in the scheme to make him very thoughtful. In fact, we think it quite likely that there will be difficulty in obtaining the necessary qualified staffs, for many dentists will feel, and rightly, that the institution of such clinics is a blow at professional life. The dentists will become the servants of an institution which is to be made to pay. To run a large organisation of dental clinics a large number of dental mechanics will be required, and many of these will eventually swell the army of dental quacks. And lastly, what is to prevent that section of the public which can pay full and proper fees to private practitioners from seeking the dental clinics? We hope that the British Dental Association will look at the proposal very carefully before they accept the money.

Annotations.

"Ne quid nimis."

RECENT BIRTH-RATE AND INFANT MORTALITY IN THE LARGEST ENGLISH TOWNS.

NINE years having elapsed since the last census in the United Kingdom, considerable doubt now exists as to the population figures that should be adopted as the indispensable basis for vital statistics, as there are good grounds for doubting the trustworthiness of the official assumption that the rate of increase of population that prevailed in the United Kingdom between 1891 and 1901 has since been maintained. Until the results of next year's census are available there is, however, practically no option but to accept the Registrar-General's estimates of population, based on this assumption, trusting that our national vital statistics are not seriously invalidated by the probable over-estimate of the present population. In the 76 largest English towns the annual birth-rate during the first quarter of this year was equal to 25·3 per 1000 of the estimated population, showing a further considerable decline from the rate that prevailed in these towns during the first quarters of 1908 and 1909, which was equal to 28·3 and 26·7 per 1000 respectively. The birth-rate last quarter showed a decline of nearly 10 per cent. from the mean rate in the first quarters of the three preceding years. The present birth-rate in these towns may, however, be slightly understated through an over-estimate of the population. The deaths of infants under one year of age in these 76 towns during the first three months of this year did not exceed 115 per 1000 registered births, against 128, the mean rate of infant mortality in these towns in the corresponding period of the three preceding years, 1907–8–9. Infant mortality during last quarter in these towns showed, therefore, a decline of 10·2 per cent. from the mean rate in the same period of the three preceding years. This continued decline of infant mortality in our large towns is distinctly satisfactory, and suggests the inquiry whether, in view of recent very general administrative action for promoting increased care of infant life, it can be attributed, for instance, to the early notification of births to sanitary authorities. It is a fact, however, that the recent decline of infant mortality has not kept pace with the decline in the rate of mortality at all ages. During the first quarter of this year the annual rate of mortality in the 76 towns from all causes and at all ages did not exceed 15·0 per 1000, and was no less than 18·9 per cent. below the mean rate in the same towns in the corresponding period of the three years 1907–8–9; whereas the decline of infant mortality, as we have seen, did not exceed 10·2 per cent. While it is impossible to question the value of administrative action for checking the undoubted waste of infant life, it is unfortunately a fact that infant mortality is still declining at a slower rate than the death-rate at all ages.

ALCOHOL AND ALPINISM.

ABSTINENCE from, or a most moderate use of, alcoholic liquors has within the last 20 years become a marked feature of nearly all classes of society, and in none more markedly than in that composed of persons devoted to hard muscular exercise. Dr. L. Schnyder of Berne recently published in vol. vi. of the *Archives de Psychologie* the results of an inquiry set on foot by him amongst mountaineers as to their use of alcohol. This report has now appeared in an authorised English translation[1] by E. G. Richards, and it is a document of much interest. In 1903 Dr. Schnyder addressed a series of questions to about 1200 members of Alpine clubs, both Swiss and foreign, and received 573 answers. Of the members answering the question as to the use of alcohol in daily life, 573 in all, 446 habitually took alcohol in some form and 54 were total abstainers. Between these two lots came 73 who only took alcoholic beverages very occasionally. When mountaineering 412 carried alcohol and 161 carried none. Nearly all those who carried alcohol added that it should only be used at the latest possible moment, and then only very moderately. Dr. Schnyder's sixth question was, "Summarise your general impressions as to the rôle of alcohol in mountain climbing. Do you prefer another substance to it?" To this question he received 578 answers, of which 254 were distinctly unfavourable, 224 rather favourable than unfavourable, and 100 distinctly favourable.

[1] Alcohol and Alpinism. By Dr. L. Schnyder, Berne. Authorised translation by E. G. Richards. London and Edinburgh: William Green and Sons. 1910. Pp. 83. Price 2*s.* net.

Almost all the trained mountaineers are unfavourable to the use of alcohol in any form or at any time on the mountain, one notable exception being Mr. W. B. Coolidge. But even he only says that a small quantity of wine is a better restorative than tea or coffee and that cognac is indispensable as a reserve in case of exhaustion. Mr. Coolidge is an accomplished mountaineer and not a medical man, but his experience agrees closely with that given by Mr. Clinton T. Dent, who rarely takes alcohol with him, but says that the chief value of alcohol lies in its stimulating power to the appetite. "Let the man who can eat without alcohol not use it! But in the case of one who has no desire for food alcohol can stimulate that desire; and, what is more important, improve the power of assimilation at the same time." This action of alcohol was noticed in particular, we remember, during the Ashanti war of 1874. It was then found that alcohol on the march, though it gave rise to temporary stimulation, yet produced greater fatigue after the stimulation had passed off. On reaching camp at night the older men found that a small ration of rum increased their appetite and made it possible for them to enjoy their food. Beef tea was found to be a better stimulant for marching than alcohol, while it was not followed by secondary depression. Dr. Schnyder comes to the conclusion that alcohol is harmful during the climb, that it may be used to enable the climber to overcome *the last* obstacle as a final stimulus, and that it is useful as an aid to appetite and digestion. He suggests as a substitute for alcohol some substance containing caffeine, and has devised the following powder: kola and cocoa of each 5 grammes; sugar, 10 grammes; to be taken in a little water.

JONNESCO'S METHOD OF SPINAL ANÆSTHESIA.

Professor Thomas Jonnesco has been visiting the principal European capitals and America to demonstrate his views. In reporting his demonstration in London [1] we stated that the results did not bear out all his claims, for in two out of the three cases the anæsthesia was far from satisfactory. However, it was thought possible that this was due to the fact that the stovaine was sterilised, which is contrary to Professor Jonnesco's directions. In the *Montreal Medical Journal* for February Dr. W. W. Chapman reports a demonstration given by Professor Jonnesco at the Mount Sinai Hospital, New York, which confirms our criticisms. The operating theatre, it seems, was crowded by the New York profession. Professor Jonnesco was accompanied by his own assistant, who carried an ordinary Pravaz exploring syringe with a needle about 4 inches long, and two sealed bottles of strychnine solution of different strengths, a tube of stovaine crystals, and mixing tube. In the first case a man, aged 25 years, had his right breast removed for chronic mastitis. The patient was placed in the sitting posture with the chin flexed on the sternum. Having sterilised the skin and prepared the solution, Professor Jonnesco plunged the needle between the first two dorsal vertebræ to a depth of 3 inches, but no cerebro-spinal fluid appeared, even after aspiration, only blood. The needle was withdrawn and introduced a second time. Aspiration again yielded only blood, but afterwards a drop of clear fluid appeared and the solution was injected. After ten minutes the incision was made. The patient bitterly complained of the pain and begged for ether. Encouraged by the surgeon he allowed the operation to be completed. He afterwards stated that he felt every cut but one. An operation for inguinal hernia was performed under satisfactory anæsthesia, but after the operation the face was pale and there was some sweating. In a case of operation for tuberculous cervical glands upper dorsal puncture was performed, but after three attempts the spinal canal could not be found and spinal anæsthesia was abandoned. In an operation for appendicitis the anæsthesia was satisfactory, but the patient almost at once began to complain of headache. It is noteworthy that Professor Jonnesco considered the anæsthesia in the first case satisfactory. This appears to show that his success may be partly due to the fact that his Roumanian patients are more stolid than those in English-speaking countries. His other claim for his method—perfect safety—also requires more support. In the *Indian Medical Gazette* for February the death is reported of a native, aged 41 years, who was anæsthetised for removal of a large elephantiasis of the scrotum. The patient seemed to be in good health otherwise, though he was very stout. Three cubic centimetres of distilled water containing 1 milligramme of strychnine hydrochloride and 1 decigramme of novocaine were injected between the last two dorsal vertebræ and anæsthesia was rapidly induced. During the operation the patient complained of difficulty of breathing, which was attributed to the weight of the tumour which was turned up on the abdomen. When the operation was almost completed and the pedicle about to be severed respiration stopped and all attempts at resuscitation failed. In performing artificial respiration it was noticed that the arms were rigid. This was thought to indicate that death was due to the action of the strychnine on the medulla. A death has also been reported from the General Hospital, Birmingham.

[1] THE LANCET, Nov. 27th, 1909, p. 1607.

THE CENTENARY OF BENEDIKT STILLING'S BIRTH.

ON Feb. 22nd, 1810, Benedikt Stilling was born at Kirchhain, near Marburg, of Jewish parents. In memory of the centenary of his birth the *Münchener Medizinische Wochenschrift* of March 29th publishes a brief notice of his career, together with his portrait. According to Dr. L. Strauss of Biebrich, who contributes his memorial notice, the remarkable researches of this great worker, whom Kussmaul described as "the pioneer and Columbus of a new world," have not received sufficient recognition even in Germany, although his name survives in the sacral nucleus of Stilling of the spinal cord. He was educated in the Gymnasium at Marburg and graduated in the university of the same town, shortly afterwards being appointed provincial surgeon at Cassel. Here he appears to have obtained distinction as an operating surgeon and soon to have acquired an European reputation. In spite of the demands made upon him by a very large practice, he was assiduous in research, for, as he himself said, there glowed hot within him the desire for scientific knowledge. His best known work is that dealing with the structure of the brain and spinal cord, at which he worked for nearly 40 years. He was the first to prepare complete serial sections and to trace groups of fibres in the nervous system by this means. He also demonstrated the cranial nerve nuclei situated between the corpora quadrigemina and the medulla oblongata, and in particular he described the nuclei of the hypoglossal, the vagus, and the facial nerves, the motor nucleus of the fifth, the nuclei of the fourth and the third nerves, and the upper nucleus of the spinal accessory. He established by experiment the nature of the vaso-motor mechanism and its relation to the sympathetic system. He also showed that an active dilatation of the blood-vessels as well as an active contraction occurred. His observations on conduction in the spinal cord were for the most part confirmed by later observers. Great as were Stilling's contributions to scientific medicine he did not neglect the practical side. He was one of the early ovariotomists, performing his first operation of that kind in 1837. He

improved the technique by introducing a so-called extra-peritoneal method and by his manner of dealing with the pedicles, which Nélaton characterised as the greatest advance made in regard to ovariotomy. He was one of the first in Germany to crush vesical stones, and he introduced new methods and instruments for the treatment of strictures of the urethra. This record of work achieved is truly remarkable in a man without the facilities of a professorial chair or of a public hospital. Dr. Strauss concludes his article by hoping that it may serve to render the name of Stilling more familiar to medical practitioners of the present day. A record of pioneer work carried through under difficulties is always stimulating, and we may hope that Dr. Strauss's interesting note will be widely read and achieve the purpose for which it was written.

IDIOPATHIC DILATATION OF THE COLON, OR HIRSCHSPRUNG'S DISEASE.

SINCE Hirschsprung in 1886 described the condition of dilatation of the colon to which his name has been applied a very considerable literature has grown concerning it. This was collected in an interesting review of the subject by Dr. C. Löwenstein[1] of Zürich in 1907. Dr. Johannes Lorenz has described an interesting case in which surgical treatment proved successful and given a review of the general characters of the affection and of the results of different forms of treatment.[2] The patient was a young man, aged 18 years, who was healthy until the second year of life, after which he suffered from children's ailments and from digestive disturbances. From his third year onwards he was subject to constipation and his abdomen was frequently distended. At the age of 13 years a severe attack of paralytic atony or ileus developed and each year he suffered from obstinate obstruction, lasting eight days and followed by prolonged diarrhœa. In November of 1908 a similar attack occurred more severe than usual, and associated with recurring pain. The patient was admitted to hospital, and the dilatation of the sigmoid flexure was established by the use of bismuth and the Roentgen rays. On examination the liver dulness was found to be obliterated, the heart pushed upwards, and the lower margins of the lungs in front were difficult to localise. The abdomen was greatly distended, especially in the upper part. The percussion note over the whole abdomen was tympanitic. To relieve the symptoms a cæcal fistula was made, but severe colicky pains in the left side persisted. On Feb. 6th, 1909, Professor Trendelenburg performed a radical operation. An incision was made below the umbilicus, when the greatly distended sigmoid flexure presented. Its length was 65 centimetres and its diameter 13 centimetres, while its wall was half a centimetre in thickness. The whole loop was excised, the cut ends of the colon were closed, and a lateral anastomosis was effected. The patient left the hospital cured on May 26th. The characteristic clinical features of this condition are meteorism and obstinate constipation, and these may commence very early in life. It frequently happens that purgatives and enemata fail entirely to relieve the bowels; indeed, enormous quantities of the latter may be retained. When an action is obtained the fæces often consist of friable masses not very hard in consistence and associated with very large quantities of offensive flatus. Often in the course of a few weeks the patient, who has previously been in apparently good health with a normal appetite, becomes rapidly ill, anorexia develops, severe colicky pains occur, the pulse becomes small and rapid, and paralytic distension of the small intestine develops. The abdomen under such conditions will be found to be greatly distended, the coils of bowel are visible, and peristaltic waves can be seen passing along them. The thoracic viscera and the diaphragm are pushed upwards and breathing is much impeded. Sometimes the passage of an intestinal tube enables flatus and fæces to escape, and afterwards, by means of enemata and digital manipulation, the distended bowel may be evacuated. Death may occur from general cachexia and cardiac failure, from peritonitis after perforation of a stercoral ulcer, from paralytic obstruction, and occasionally from collapse after too rapid emptying of the distended bowel. Of 90 cases in which the anatomical condition was investigated in 85 the sigmoid flexure was involved. The transverse colon was involved next in frequency. The ascending colon was dilated in 30 of the cases, and in 12 the lower part of the ileum showed changes. The pathogenesis of the affection is as yet obscure; by most authors it is regarded as congenital or as the sequel of congenital defects in muscular tone and innervation. In regard to treatment the results of medical measures are described as merely palliative. Dr. Lorenz describes the results of operative treatment in 41 cases: as death in 18, negative result in 1, improvement in 6, cure in 16. The procedure he recommends is resection of the distended part of the large intestine. Anastomosis appears to give less satisfactory results, and colotomy can only be advised as a preparatory operation to excision. Plication of the colon has been employed in two cases, in both with good results. Dr. Arthur F. Hertz in his interesting book on "Constipation and Allied Intestinal Disorders" states that in early cases medical treatment can cure the condition, but when surgical treatment is necessary he advises colostomy, which is occasionally sufficient to effect a cure. When this fails he recommends anastomosis between the ileum and the rectum, and finally colectomy, if necessary.

[1] Centralblatt für Allgemeine Pathologie und Pathologische Anatomie, Dec. 15th, 1907.

[2] Inaugural Dissertation, Leipzig, 1909, abstracted in Allgemeine Medizinische Centralzeitung, March 12th, 1910.

THE STABILITY OF THE PHYSIOLOGICAL PROPERTIES OF COLIFORM ORGANISMS.

THIS question of the stability of the physiological properties of micro-organisms is of considerable importance and of wide interest. The failure of morphological and cultural characters to provide sufficient criteria for the certain differentiation of microbes led the bacteriologist to resort for this purpose to a study of their physiological properties, and especially of their capacity to produce fermentative changes in various sugars, alcohols, and glucosides. These chemical actions have been of special importance in the study of organisms of the colon group and of the streptococci. It is obviously, therefore, a matter of great importance to systematic bacteriology to determine whether these properties are stable, or whether they may be lost or acquired by an organism when the conditions of its environment are modified. The importance of the problem, however, extends much beyond questions of differentiation of micro-organisms and concerns intimately our knowledge of the life-history of microbes in the periods of saprophytic existence, which with the majority of pathogenic germs alternate with the parasitic periods; these latter are, as a rule, much the better known. It is from this point of view that Mr. Cecil Revis studies the question of "stability" in the colon group in an investigation of much interest carried out in the laboratories of Messrs. Welford and Sons. In a series of well-devised experiments he examined the effect of prolonged growth in various media which were designed to simulate probable conditions met with during life external to the body; in contaminated and uncontaminated soil; in media deprived of proteid; and in media where sugars of various kinds were the sole source of carbon. The investigation was a difficult one,

and we are inclined to agree with the views of Burri, who holds that it is necessary to work with cultures derived from single organisms if absolutely reliable results are to be obtained, though we recognise the great practical difficulties involved. The facts that the search for colon bacilli is usually made in certain limited materials, the isolation of the germ secured by the use of severely eliminating media, and its culture conducted on a few media and under limited and fixed conditions, make the stability of their properties appear greater than it really is, as the variants are crushed out. It is the existence of these conditions which makes the instability of less importance than it would otherwise be in differentiating members of the colon group, and, as Houston has shown, secures a reasonable permanence of type. At the same time it is recognised that the properties are not stable or that the chemical activities possessed by a microbe are not always exercised. Indol formation is very variable and may be artificially checked or encouraged; fermentative power may be acquired, as has been shown by Twort in relation to dulcitol, and though in the research here considered the results are regarded by the author as negative, yet great modifications in the rapidity and amount of fermentation and other alterations were produced, so that strains quite unrecognisable as colon bacilli were obtained.

TOWN PLANNING IN GREATER LONDON.

A CONFERENCE of local authorities to consider the question of town planning in Greater London will be held, under the auspices of the National Housing and Town Planning Council, at Caxton Hall, Westminster, London, on Friday, May 6th, at 10.30 A.M. Invitations to attend the conference are being sent to the London County Council and to 88 local authorities in the Home Counties possessing statutory town planning powers in the Greater London area. It is desired to impress upon the conference the great importance of the new powers granted under the Housing and Town Planning Act, 1909, and to secure harmonious action between all the authorities in regard to those features of town planning which affect the development and amenities of Greater London as a whole. Further particulars may be obtained from the secretary, Mr. Henry R. Aldridge, National Housing and Town Planning Council, 4, Tavistock-square, London, W.C. The questions involved under the inclusive heading of town planning are many of them of the greatest medical importance, as we have pointed out on several occasions, and we hope that the professional voice will make itself heard at this conference.

THE USE OF TUBERCULIN IN THE TREATMENT OF PULMONARY TUBERCULOSIS.

IN another column we publish an article by Dr. H. Warren Crowe on a New Method of Treating Acute Phthisis by the Alternate Use of Human and Bovine Tuberculin. His paper may be divided into two parts, the first detailing his method of treatment, and the second certain theoretical considerations which require careful study and comparison with the results of other observers before they can be fully accepted. Dr. Crowe adopts the plan followed by other physicians in employing very small doses of tuberculin (1/100,000th milligramme). He expresses his opinion that in "active phthisis," with a rectal temperature ranging above 100° F., a further rise of temperature, commencing sooner or later, and lasting a longer or a shorter time, is the most usual result of the smallest efficient dose of tuberculin. This is, however, contrary to the opinions of several English and foreign observers, who maintain that tuberculin given in small doses has an antipyretic action. It would be difficult to distinguish the subsequent rise described by Dr. Crowe from the effect of the disease. The use of bovine tuberculin has been described from time to time, but Dr. Crowe states that a prolonged reaction resulting from the use of either human or bovine tuberculin can be cut short by a dose of the other provided that there has been developed some degree of hypersensitiveness to the form of tuberculin which excites the reaction. He then describes the method in detail, and offers three theoretical considerations: 1. "Auto-inoculations theoretically must have a greater curative action than therapeutic inoculations of tuberculin in the treatment of phthisis (whether acute or chronic)." This opens up a large field of conjecture, for auto-inoculation as a therapeutic measure has not yet had a sufficiently long trial to afford a definite answer to this proposition. 2. "Tuberculin treatment causes hyperæmia at the lesion." This is generally accepted. 3. Inoculation of tuberculin causes auto-inoculation. Dr. Crowe's remarks raise interesting questions which cannot be settled in the space devoted to the subject in his paper. His observations are suggestive, but we believe that the subject has already received attention on the Continent. The tuberculin treatment has been carried out in such different ways that time alone can settle the most advantageous manner in which it can be administered.

ACUTE ARTHRITIS OF DOUBTFUL ORIGIN.

MANY cases occur in which acute inflammation of a joint appears without any obvious cause and without any definite indications as to the exact nature of the condition present. Dr. G. Burnside Buchanan of Glasgow has contributed a paper to this issue of THE LANCET in which he has related a number of these cases and has detailed the course of the disease and the treatment which he adopted. In many cases such as these there is no little risk that a diagnosis of rheumatism may be made, and often the greatest care is required to ensure that this mistake is not committed. Acute epiphysitis is one of the commoner of the conditions leading to acute arthritis arising without obvious cause, and a timely diagnosis of the site of the lesion, followed by incision and drainage of the focus of disease, will often result in a rapid and complete healing. When it is possible to recognise early, and with certainty, whether an inflammation is rheumatic in origin or not, surgeons will be in a better position to deal satisfactorily with the obscure forms of arthritis ably discussed in Dr. Buchanan's paper.

ON PUERPERAL AMAUROSIS.

IN a recent number of the *Ophthalmoscope* (March, 1910) Mr. Sydney Stephenson and Dr. W. P. Herringham record two cases of temporary blindness without ophthalmoscopic signs, associated with albuminuria in primiparæ. In one case there was eclampsia, but not in the other. Such cases have commonly been reported as uræmic, but to this designation the writers offer potent objections. In an exhaustive and critical review of the literature of the subject, which is to be commended strongly to the notice both of obstetricians and ophthalmologists, cases of amaurosis or amblyopia reported as occurring in pregnancy, during labour, and post partum are described. Well-reasoned comments upon the material thus collected lead the writers to the following conclusions:—1. A form of amaurosis or amblyopia, not accompanied by ophthalmoscopic signs, or, at least, by none adequate to account for the condition, may supervene during pregnancy, parturition, or the puerperium. 2. Rarely it may assume the form of an hemianopic defect or of a central scotoma in the fields of vision, or still more rarely of night-blindness. (The writers use the term "hemeralopia" for night-blindness. Owing

to the diametrically opposite meanings which are attached by authors to the terms "hemeralopia" and "nyctalopia" it is much to be desired that all ambiguity should be avoided by employing "night-blindness" and "day-blindness" in their stead.) 3. The condition is often associated with such signs and symptoms of toxæmia as headache, œdema, eclampsia, and scanty urine containing albumin, casts, and blood. 4. It appears to form one of the rarer manifestations of toxæmia poisoning. 5. It is not proved to be dependent upon uræmia, although it has usually been confused with so-called "uræmic amaurosis." 6. As a rule, the visual defect is recovered from completely in a few hours or days.

THE SUPPLY OF MIDWIVES IN LONDON.

THE Midwives Act Committee of the London County Council on April 19th drew the attention of the Council to the Order in Council issued on March 14th last authorising the Central Midwives Board to enrol, without examination, any women entitled under Section 2 of the Act of 1902 to be certified, but who failed to make application, provided that no one is admitted to the roll in this manner after Sept. 30th next. (The section referred to makes it illegal for uncertified midwives to practise unless they are able to show that they have been in practice for at least a year prior to July 31st, 1902.) From evidence given before the Departmental Committee appointed to consider the working of the Act of 1902 it appeared probable (said the committee) that the number of midwives at present certified under the Act would be insufficient in a few districts. It was to meet this difficulty, apparently, that the Order in Council had been made. In London, however, so far as could be ascertained, the number of midwives was in excess of requirements, and for this reason the Council had discontinued for some time the award of scholarships in midwifery. In these circumstances it seemed very undesirable that any addition of insufficiently trained persons should be made to the ranks of women permitted by law to engage in practice in London, and the committee recommended that the Central Midwives Board should be asked to refrain from admitting to the roll of midwives in London any person unqualified by examination. The recommendation was agreed to.

PAROTITIS COMPLICATING ACUTE RHEUMATISM.

INFLAMMATION of the parotid gland is well known to owe its origin in a majority of instances to an infective process. Even in the case of mumps, the precise etiology of which is as yet undiscovered, the general features are of such a kind as to leave little room for doubt as to the bacterial origin of the disorder; while those parotid inflammations which complicate pneumonia, peritonitis, enteric fever, and the process of rectal feeding, are traceable in each case to micro-organisms. The latest addition to the list of causes of parotitis is acute rheumatism, which is generally acknowledged to be an infective disorder, although there is disagreement as to the actual micro-organism concerned. M. Courtois-Suffit and M. Beaufumé[1] have brought together three cases of parotitis complicating acute rheumatism, two observed by themselves and one recorded by Gouget.[2] They have been unable to find other examples in the literature. These three cases are remarkably similar to each other. In each instance the attack was acute and affected many joints; the parotitis occurred either at or just after the period of maximum intensity of articular inflammation, and in all three cases it was the right parotid gland which suffered. With the appearance of swelling and discomfort in the parotid region a slight rise of temperature occurred; but in no case did suppuration occur, and in the worst of the three all evidence of parotitis had disappeared by the sixth day. The briefness of the inflammatory process and its complete disappearance under treatment with salicylate of soda suggest a directly rheumatic origin in the opinion of M. Courtois-Suffit and M. Beaufumé, thus contrasting with those types of parotitis already referred to, in which some micro-organism other than that responsible for the underlying disease is probably concerned.

[1] Gazette des Hôpitaux, March 8th, 1910.
[2] Ibid., Nov. 24th, 1904.

A NEW session of lectures and demonstrations at the Hospital for Sick Children, Great Ormond-street, will commence on Thursday, May 5th next, at 4 P.M., when Dr. F. J. Poynton will make "Some Observations upon Pericarditis." On May 12th Mr. Arbuthnot Lane will speak on the subject of Fractures. The lectures, which are free to all medical practitioners, will be continued each Thursday at the same hour, and the names of subsequent lecturers and the titles of their papers will be found in the diary columns of THE LANCET as the dates approach more nearly. Further particulars concerning the lectures and the clinical clerkships in the wards of the hospital may be obtained from the Dean, Dr. A. F. Voelcker, at the hospital.

Mr. Walter Runciman, President of the Board of Education, has appointed a Departmental Committee to consider and report upon the functions and constitution of the Royal College of Art and its relations to the Schools of Art in London and throughout the country. The committee is constituted as follows: Mr. E. K. Chambers, one of the principle assistant secretaries of the Board of Education (chairman); Sir Kenneth S. Anderson, K.C.M.G., Professor Frederick Brown, Mr. William Burton, M.A., F.C.S., Mr. Douglas Cockerell, Sir George J. Frampton, R.A., Sir Charles Holroyd, Hon. Litt.D., Mr. Halsey Ralph Ricardo, F.R.I.B.A., and Mr. Frank Warner; with Mr. A. H. Sidgwick, a junior examiner of the Board of Education, as secretary.

THE London and Counties Medical Protection Society, Limited, will hold its annual general meeting at 31, Craven-street, Strand, London, on Wednesday, April 27th, at 4 P.M. to receive and adopt the annual report and balance sheet, to elect the president, vice-presidents, council, officers, and auditors, and to transact other business.

THE annual general meeting of the Medical Defence Union will be held at the Royal Station Hotel, Hull, on Thursday, May 19th, at 5 P.M., when the annual report and audited balance-sheet of accounts will be presented and the statutory resolutions brought forward.

THE FACTORY AND WORKSHOP ACT.—A summary of reports on the administration of the Factory and Workshop Act, 1901, by local authorities during the year 1908 has just been issued in the form of a Parliamentary paper. Up to March 14th, 1910, out of 1847 reports due from England and Wales 1803 were received, while from Scotland of 325 reports due 317 were received. In Ireland 769 were due and 149 received. The Factory and Workshop Act requires medical officers of health to report annually to their local authorities, and it is explained that the number of reports outstanding from Ireland is probably due to the fact that only 20 superintendent medical officers of health are under obligation to make an annual report to the local authorities on the administration of the Public Health Acts. The recorded inspections of home-workers' premises are 93,443, as compared with 102,549 in 1907, and there were 1616 notices forbidding work in unwholesome premises, as against 1948 in 1907. The number of orders relating to infected premises was 640, as against 466. The fact that more reports are outstanding, as compared with 1907, may account for, in part, a decrease which appears in most of the statistics.

RABELAIS THE PHYSICIAN.

BY SIR HENRY MORRIS, BART., F.R.C.S., M.A. LOND.

THE interesting announcement under this heading which appeared in last week's issue of THE LANCET will be read with pleasure by everyone who finds enjoyment in good literature. The indelible renown of the author of "Pantagruel" and his giant father "Gargantua" rests on a much wider foundation than the fact that he was at once both a divine and a great physician—an association of two professions in the same person quite common at the epoch of Rabelais and for centuries before. Having received his first schooling in a Benedictine foundation, Rabelais became a novice, and took the vows of a novitiate in a Franciscan convent, which in turn he left to enter a Benedictine abbey and thus became a Benedictine monk instead of a Franciscan friar. He was guilty of apostacy from the rules of the Church by abandoning without the permission of his superior the garb of a monk for that of a secular priest, and travelling about the country from one university to another. He entered as a law student first at Bourges, next at Orleans, and afterwards as a medical student in Paris. He took his medical degrees in the University of Montpellier in 1530 and 1537. He gave anatomical demonstrations on the human body in the medical theatre at Montpellier (1537) and in the following year at Lyons. He invented surgical instruments for the reduction of fractures of the femur and for operating in cases of strangulated hernia. He was mentioned by Dolet as the "honour and sure glory of the healing art," and Salmon Macrin described him in a Latin ode as the most eminent physician, of whose skill "Paris, Narbonne, the banks of the Aude, and Lyons" were witnesses. He besought the Holy Father to grant him absolution from his apostacy, to allow him to hold any benefice that might canonically be conferred on him, and to practise the art of medicine "*in the way of Charity, without expectation of lucre or gain, and without the use of the cautery or knife.*" And the Pope granted all that his "beloved son" had requested. Then we hear of him at one time as a chaplain to a Bishop, at another time as travelling physician to a French Cardinal, at another as holding medical appointments at hospitals, and finally as a pluralist in Church preferment holding two livings, one at Meudon, near Paris, and that of Saint Christophe du Jambet, in the diocese of Le Mans. But above and beyond all this, Rabelais is principally famous because of his influence on the Renaissance, not in France only, but throughout the civilised world. Up to nearly the end, certainly till after the middle, of the fifteenth century, Greek was not understood in France. It was not until the arrival of a learned Greek, Janus Lascaris, in 1495 that the Greek language began to be studied in Paris. Soon after this a small coterie of Greek scholars was formed there, amongst the members of which were two physicians—viz., Guillaume Cop and Jean Ruel. Rabelais and a fellow monk, Pierre Amy, began to learn Greek about 1520, but under difficulties. If owing to prejudice and the scarcity of Greek texts the study was difficult in Paris, still more so was it in a Franciscan convent in a provincial town, where "*vows of ignorance*" as well as "*religious vows*" were required to be taken. But by getting into communication with several of the members of the circle of Greek scholars in Paris and with Erasmus the leading scholar in Europe, and by obtaining permission to exchange the Franciscan convent for a neighbouring Benedictine abbey, Rabelais found his difficulties diminished. A result of the revival of the study of Greek in Rabelais's case was that when lecturing at Montpellier in 1530 on the "Aphorisms" of Hippocrates, and the "Little Art" of Galen, he was able to base his lectures on a very ancient Greek manuscript of Hippocrates and on his own copy of Galen's complete works (now in the library of University College, Sheffield[1]), instead of on imperfect, mutilated, clericalised Latin translations, as other lecturers hitherto had done; and again in 1537, after he had been appointed one of the ordinary professors of the Faculty of Medicine, he used a Greek text for his lectures on the "Prognostics" of Hippocrates. Rabelais had broad-minded views on education. He propounded a scheme which aimed at stimulating the memory as well as the faculties of observation and reflection. It was practical as well as comprehensive. It embraced what to-day we call the modern or science and classical sides of our schools, and it included physical, and what is more hygienic, training as well. The student was never to be idle; rest ensues from change not from cessation of employment. Rabelais's relations to the Church were influenced by the teaching of his contemporaries, Luther and Calvin. He hated the monks and fell foul of the Sorbonne, yet he escaped the "*Chambre ardente*" of the Parliament of Paris, which was a criminal court specially erected for the trial of heretics. He favoured many of the doctrines and practices of Protestantism because they favoured principles of free inquiry and individualism, yet he rejected the French Protestantism as a creed. He never wrote anything against the principal doctrines and leading features of the Roman Catholic faith, and he celebrated mass and performed other offices in, and continued to be a member of, the Church of his forefathers. Moreover, Rabelais was deeply impressed with the great importance of the study of the Bible, whereas his illustrious countryman Montaigne, who lived a generation later, went a long way beyond him in his independence of, and opposition to, the Church, and regarded the teaching of the Holy Scriptures in the vernacular as not only not "helpful but dangerous." But Rabelais was a humanist first, and a theologian in the second place; he attached greater importance to national unity than to any particular creed or any form of ritual. He possessed an active imagination and a sceptical and an inquiring mind, but was consistent, not dogmatical, in regard to matters beyond the scope of actual experience and human knowledge. Without sacrificing sincerity or exercising hypocrisy he was guarded in his hostility to the Sorbonne. Though he sometimes used risky phrases in attacking the ignorance of the clergy and the prevalent evils of the Church and its ritual he sheltered himself behind "a privilege" which he obtained from the French kings, François I. and Henry II., for his books; or, agitated by the burning at the stake of some contemporary writer, he thought it advisable to leave France from time to time and sojourn at Rome or elsewhere as physician to Cardinal du Bellay until the first bitterness aroused by the jests and satires in his new books had had time to be forgotten or tolerated.

Undoubtedly the monument which it is proposed to erect in commemoration of Rabelais's connexion with the ancient and illustrious Faculty of Medicine of the University will find its appropriate place at Montpellier. But considering the universality and the greatness of his fame one is led to ask, with the writer of the article in THE LANCET which I have referred to, why a more ambitious project should not be undertaken. There is, or there was, if my memory does not deceive me, a statue of Rabelais near the bridge over the river Vienne at Chinon in Touraine. At Chinon, "the famous and noble Chinon, the first town in the world," with its ancient fortress, now in ruins, standing on a rock 300 feet above the river, Rabelais is said to have been born, and certainly his father had a house there. At Chinon Henry II. of England breathed his last in 1189, after crying shame upon himself as a beaten king. At Chinon in 1429 Jeanne d'Arc awakened in Charles VII. that spirit of enterprise and patriotism which led to his surname of L'Indolent being changed into that of Le Victorieux, and resulted in the expulsion of the armies of Henry VI. of England, who at his accession possessed nearly the whole of France, from territory after territory of that fair country till Calais alone remained to the English. With Chinon is associated also the name of the celebrated favourite Agnes Sorel, who exercised so great and beneficial an influence over Charles VII., and on account of whom and of the services of Jeanne d'Arc history has also given him the sobriquet of Le Bien Servi. But neither at Chinon his birthplace nor at Montpellier the University where he graduated, will a statue commemorate Rabelais so worthily as a fine monument in the metropolis of his native land would do. As the embodiment of the early French Renaissance, as the "Great Jester of France" as Bacon called him, as the greatest of French humourists and one of the greatest humourists of the world, and as the man "who has

[1] I am informed by Mr. Loveday, the librarian, that the Galen is the property of the Weekly Board of the Sheffield Royal Infirmary. It is the Aldine edition of the Greek published in Venice in 1525.

brought Aristophanes back to life and who imitates so well the satirical art of Lucian" as Joachim du Bellay said of him, Rabelais merits the grateful remembrance of the Frenchmen of to-day as much as he enjoyed popularity amongst and the love of those of his own time.

MOTORING NOTES.

BY C. T. W. HIRSCH, M.R.C.S. ENG., L.R.C.P. LOND.

The 15 h.p. Straker-Squire Car.

MOTOR-CARS are costly objects for medical men to invest in, and some of our readers do not seem to pay as much attention to the record of the firms with which they deal as they would with respect to, say, surgical instruments. The family history of a car is worth considering. Now everyone knows the name of Straker-Squire, for half the motor omnibuses bear that signature as a mark of their parentage, and motor omnibuses are nowadays tested severely and tried highly, so that the products of the firm which produces them must be able to stand a good deal of knocking about. This is a conclusion which a fairly long test of their one and only carriage model has confirmed in my mind. That they have specialised in the production of one model is to the advantage of the purchaser in the matter of quality and price, while it is another advantage that the car is English made, so that the owner can go to the place of manufacture and can see the component parts prior to their being put together, as well as watch sister cars being built and tested. It is true that nowadays a car may go, and probably will go, many thousand miles without an involuntary stop, still some mechanical tort may arise, so that it is as well to acquire by demonstration the anatomy and physiology of one's mount. With the 15 h.p. Straker-Squire car this is easily done, as the car is built throughout at Bristol. There are many opinions as to what constitutes a good doctor's car, but all admit, as being essential, sufficient power, smoothness and reliability, and quiet in running. A cheap car is dear if it constantly breaks down. With a view of ascertaining if the car in question possessed the necessary qualifications for medical needs I recently spent a day in driving one.

The chassis is fitted with four types of body—two-seater, four-seater, landaulette, and light runabout. I wanted to put the engine to as severe a test as possible, so as Messrs. Straker-Squire kindly left the choice to me I elected to carry out my trial run on the heaviest—that is, on the four-seater—with a Cape-cart hood and front glass, and in addition I loaded the car up with its full complement of passengers. Thus burdened the car did a short professional round in wet weather along the tram-lined narrow Woolwich road. It was on a Saturday, and Woolwich streets were thronged, so I had an ample opportunity to really test the brakes and control. Both answered perfectly to the slightest touch, and the way the car pulled up in traffic and started again, even on the top gear, was most satisfactory; while I may say that having all the brakes acting on the rear-wheel hubs answers just as well as the orthodox method of having one on the cardan shaft, and of course the former plan must save the transmission gear. Then we essayed a long run, and made for Sussex, over Shooter's Hill, which was done on the second speed easily, through Dickens's land, across country to Tonbridge, on to Battle, and then by rough lanes beside forests and on roads that showed what our car could do. Once we pulled badly, but the fault was mine, not the car's. We had stopped to admire a piece of scenery, and I dismantled the carburettor to find out its special features, in doing which I learnt that unknown carburettors need a little care in putting together, for in replacing the hollow spindle regulator, which controls the quantity of petrol, I neglected to adjust it at its former point, with the consequence that the mixture was too rich. So the car did not pull well, but as soon as the cause was diagnosed and the defect rectified the speed on the level was more than legal limit, and hills were easily negotiated, and mostly, even when they were bad ones, on the second gear.

The chief aim of the constructor of the car has been accessibility for inspection combined with simplicity. The engine has four cylinders cast in pairs, 87 mm. bore by 100 mm. stroke. The inlet and exhaust valves are on the same side and are operated from the cam shaft through the medium of a finger and extra light valve tappets, thus ensuring very quiet running. The cams are solid with the shaft, cut from the bar, and the design permits of the easy withdrawal of the cam shaft for inspection. The frame is of pressed steel, and the engine is hung directly on to it. An easily detachable steel undershield effectively protects the engine and transmission gear. The springs are semi-elliptic, and the shackles are provided with proper oilers, these being parts which usually escape lubrication. The water-pipes and cylinder passages are of generous dimensions, and the circulation, which is by thermo-syphon, is efficient. After a run of over 100 miles, which ended with a stiff hill climb, I found the engine cool, and I was able to hold my hand easily against the radiator. This latter is of the vertical gilled tube type, and a fan at the back, driven off the crank shaft, maintains the air circulation. The tension of the fan belt can be easily adjusted, as the fan spindle is eccentric and can be moved upwards or downwards by undoing a set screw. Ignition is by the now popular and satisfactory Bosch high-tension magneto, which is mounted in an accessible place in front of the engine and is driven by skew wheels off the two to one gear. The Bosch dual ignition can be had as an extra. Lubrication is by splash dippers at the end of the connecting-rods, picking up the correct amount of oil for the big ends and at the same time distributing it to the cylinder walls and gudgeon pins. The level in the crank case is maintained by a positively driven gear wheel pump; an indicator on the dash shows that the oil is circulating and when more should be added. The carburettor is fed by pressure from the exhaust. An auxiliary hand pump on the dash is fitted to permit of starting the supply to the float chamber. The carburettor is known as the "Ware," the feature of which is a simple contrivance whereby the amount of petrol passing to the jet can be varied. This method is simple and efficient, gives a correct mixture when properly set at all engine speeds, and acts without the use of any automatic spring or air valve, while from my experience during the day's journey I came to the conclusion that it was most economical. The clutch is of the old-fashioned, leather-faced cone type, and as springs are fitted under the leather the engagement is very gentle. The clutch and gear-box are connected by a double universal joint, and a good feature is that it can be dismantled without disturbing any other portion of the chassis. The gear box provides three speeds forward and a reverse, all operated by a single lever working in a quadrant, and the third speed is a direct drive from the engine to the differential. The transmission from the gear box to the back axle is by the usual cardan shaft and bevel gearing, the shaft being fitted with universal joints at either end. The live axle is designed so that the driving axle carries no portion of the weight of the vehicle. A particular feature is that the differential bevels can be removed without disconnecting the axle from the springs, and, in fact, without even the jacking-up of the road wheels; all that is necessary is to remove the hub caps, withdraw the driving shafts and dogs, take off the door at the back of the case, and then the bevels can be slipped out. The control consists of a hand control on the steering column, and the now universal foot accelerator pedal, coupled to the throttle on the carburettor, and there is no doubt that at times it is useful to have the two methods of regulating the throttle. The brakes, both the hand-controlled and foot, each act on drums integral with the road wheels. These are of the band type, are protected from mud and dust by an effective metal shield, and the back wheels can be removed without upsetting the adjustment of the brakes or removing the bands. They were separately tested on really steep hills and found to hold well and, what is more, to be soft and noiseless in action.

The foregoing description, I trust, shows that the Straker-Squire car has many interesting features, and should appeal to a large circle of motorists.

The Responsibility of "Back-Fires."

In a recent case, in which the owners of a horse claimed compensation for damage done by an animal frightened by a back-fire of a car his honour Judge Lindley held that if a machine, from some cause or other, does make a noise calculated to frighten a horse of ordinary nerve, while the machine is on the highway, then the machine for the time

being is a "nuisance," and the owner is responsible for any damage thus caused. The moral naturally is to take care in starting that a back-fire does not occur in the exhaust, and in stopping to shut the throttle prior to switching off the ignition. Care should also be taken that the exhaust pipe joint is gas-tight and that the silencer is in a similar condition.

The Hooded Vehicle By-law.

A by-law which came into force in the counties of London, Middlesex, and Surrey at the end of the last month provides that the driver should have an unobstructed view through an arc of not less than 180°. Probably most owners of cars with Cape-cart hoods and side curtains have had mica or celluloid windows fitted in the curtain on the driving side of the car. Those who have not done so should have the same put in on account of the enforcement of this new and necessary by-law.

One of the Little Things that Count.

The other day I saw a motorist struggling with an old type of jack on the road and vainly attempting to lift a wheel with a punctured tyre with a tommy which was too small for the holes in the elevating part. It must have been bad for the temper to have to kneel in the mud; and then the tommy would slip out, and the jack thus not lift. These trying moments would have been avoided if a jack had been carried the top of which could be simply lifted to the height of the axle, the working handle being sufficiently long to permit of raising the car without having to bend down. Jacks of this type are made by Messrs. Tangye, Messrs. Lake and Elliot of Braintree, Essex, and Messrs. Lucas, and can be obtained of most dealers in motor sundries.

The Cost of Motoring Guaranteed.

The London Motor Garage Company, Limited, of 33–37, Wardour-street, W., to whose hire-purchase agreement I referred in the Motoring Notes of April 2nd, have drawn my attention to the fact that the prices which I mentioned included the cost of the car. The rates of the company for upkeep, maintenance, garage, including wages and board and lodging of competent driver, are £225 per annum for their 8-h.p. and 15-h.p. landaulettes. An allowance is made to such customers as provide stabling for their cars. Their terms include insurance against damage by accident or fire, theft of car or accessories, and unlimited third-party risks. The terms permit of a mileage of 6000 in the year, beyond which an excess of 4*d.* on the 8-h.p. car and 5*d.* on the 15-h.p. car is charged per mile. I take the opportunity of saying that I inspected their premises and found therein every convenience for garage, as well as repair of cars. As I mentioned in my previous notice, the company are prepared to enter into an agreement for hire and purchase, in which case the cost of the car is spread over three years, one-third being added to each year's maintenance charge.

POOR-LAW REFORM.

THE SCHEME PROPOSED BY THE RIGHT HONOURABLE CHARLES BOOTH: HIS VIEWS ON THE CARE OF THE SICK.

IN our recent leading article[1] on the debate in the House of Commons on Poor-law reform we referred to the proposal made by Mr. Charles Booth for the utilisation and adaptation of existing Poor-law areas, and of the present system of boards of guardians elected for that purpose, as an alternative for the schemes contained in the Majority and Minority Reports of the Royal Commission on the Poor-laws. His recommendations, in so far as they differ essentially from those of both sections of his brother Commissioners, are based upon the opinions: (1) That the administration of the relief of destitution should be in the hands of an *ad hoc* authority directly elected by the ratepayers; (2) that county and county borough areas are not large enough in many instances for the classification of the objects of relief and the provision of suitable special institutions under the desirable condition that these should have a constant supply of inmates numerous enough to enable economy to be combined with efficiency.

With regard to (1), Mr. Booth holds the view that the local authority has already enough to do, and he points out that the work of administering the Poor-law differs from that connected with sanitation, public health, police, and education in that these functions are carried out under powers of compulsory enforcement, whereas "the Poor-law, although it stands ready to assist, waits to be asked."

With regard to (2), he is in accord with Dr. Arthur Downes, who in his memorandum criticising the Majority Report[2] refers to Mr. Booth's opinions and dwells upon the insufficiency of many of the proposed areas. Mr. Booth objects also to the breaking up and rearrangement of areas of responsibility which would result from the adoption of the county borough as an administrative unit, as, for example, where now an urban union may conveniently include districts outside the boundary of a borough. We give below in outline the scheme of division of areas which he suggests, and also some observations which are of considerable interest upon the subject of the authority which should be responsible for the treatment of the sick under the Poor-law, particularly with reference to the proposal to transfer them to a health committee. His proposals, involving as they do no recourse to county or county borough councils, as under both the Majority and Minority Report, no transfer of the Poor-law Medical Service to the health committee as under the Minority Report, and no reference to the enlarged provident dispensary system as recommended by the Majority, are for the serious consideration of such members of the medical profession who would be most affected by these suggested changes. With regard to their patients, improvement in their treatment and the obtaining of better results with economy and increased certainty are the objects common to all the recommendations made, and the medical man, whether engaged in the Poor-law service or outside it, is entitled to study questions relating to the administrative authority and the area to be administered from a personal as well as from a public point of view.

In the first place, Mr. Booth divides the areas to be administered into two classes—viz., (1) urban groups, to be such as comprise a conterminous population socially and industrially inter-connected of not less than 250,000; (2) the remaining unions, which would obviously not be, in most cases, either entirely rural or urban, to be arranged in convenient groups to contain about 500,000. The effect of the groupings thus recommended is very clearly summarised by the author in two maps, to which reference should be made by all who desire fully to understand his proposals.[3] One of them gives a bird's-eye view of the existing county and borough areas of England and Wales, and the other of the areas suggested by Mr. Booth for the grouped unions. A glance will show the nature of the proposed areas and the great difference between them and those ruled by county and borough councils. Attention may be called in particular to Wales and to the north-western corner of England. Wales under Mr. Booth's scheme would be divided into one urban area (in the extreme south) and two non-urban areas, each having a population of less than 500,000, would suffice for the rest of the country. Under the county and borough council system there would be three county boroughs as self-contained independent areas and 13 counties. In the northern district referred to Mr. Booth would convert into four areas (three urban and one non-urban) the whole of the counties of Northumberland, Cumberland, Westmorland, and Lancashire, the urban groups being confined to the southern portion of Lancashire. Under the other system there would be four areas under county councils and about a dozen under borough councils. From these two examples, and still more from a study of the maps, it will be seen that the question has to be considered whether the advantage of larger areas, involving greater economy of administration and greater ease in classifying, may not be counterbalanced by the disadvantage of greater distances to be traversed (*a*) by the objects of assistance on their way to and from special institutions, and (*b*) by those engaged in administration, as members of the Poor-law boards of grouped non-urban unions.

The election of the Poor-law authorities in the areas described above might, according to Mr. Booth's suggestion, be as follows. The existing parish areas to be retained as the units of the unions, and the existing unions as the units

[1] THE LANCET, April 16th, p. 1076.

[2] Report of the Royal Commission on the Poor-laws, p. 672.

[3] Mr. Booth's scheme will shortly be published by Messrs. Macmillan and Co. at 1s. net in an octavo volume which will contain these maps.

to be grouped under Poor-law boards. A Poor-law board to be formed for each group of unions, but with difference of constitution as between the great urban groups and the others. The Local Government Board to be represented on the Poor-law boards by nominees proportionate in numbers to the exchequer grants given, otherwise the boards to consist (1) in the urban groups, of members elected for the purpose, the existing union areas being accepted as electoral areas; and (2) in non-urban groups, the chairman or vice-chairman of each union, with one other guardian (if the total number to compose the board will permit of it) to constitute the joint Poor-law board of the group. Mr. Booth is in favour of the boards being as small in numbers as may be consistent with efficiency. In urban unions the management of all institutions to be centralised, and detailed administration of relief to be by local committees composed of members of the board, and of co-opted nominees. In non-urban areas the institutions to be classified and managed by the joint board, and the out-relief to be administered by the guardians of the individual union under rules made by the joint board and approved by the Local Government Board. Under the jurisdiction of the Poor-law boards of the grouped unions Mr. Booth would bring all the destitute now dealt with by the unions acting singly, with the exception of those mentally deranged or suffering from any degree of feeble-mindedness that results in destitution. These, he suggests, might be removed from the Poor-law, but he questions whether any such course need have been contemplated if a strong and uniform administration of the Poor-law extended over large areas could have been relied upon.

This outline will suffice to indicate the nature of Mr. Booth's scheme and to enable members of the Poor-law medical service to form opinions as to how it would be likely to develop in matters of detail. The author of it himself presents it briefly and without any of the elaboration to be found in the Majority Report or of the advocacy which distinguishes that of the Minority. He puts it forward, as he says, in the form of suggestions only, republishing memoranda already included in Vol. XII. of the Appendix to the report of the Royal Commission with the addition of a few notes. We have not referred to the elaborate table of statistics included in the volume now before us, which, we understand, will not be found in the shilling volume already mentioned. They are instructive and of great value in making a complete study of the points dealt with in them, but are not necessary to those seeking to grasp the general principle of the plan proposed.

With regard to the treatment of the sick, Mr. Booth is not inclined to support the recommendation that they should be removed from the Poor-law and should be entrusted entirely to the authority already responsible for the public health. He asks whether treatment by the public health authorities is to be entirely gratuitous, and suggests that the system of aid apparently desired should be compulsory if it is to be effective, calling attention to the sacrifice of liberty which it would demand and the difficulty of recovering payment for the treatment afforded. Mr. Booth is of the opinion that whatever it may be possible to do in the direction of assigning the sick poor to the public health authority, and so preventing destitution and eliminating the Poor-law, a residue will remain that cannot properly be thus dealt with; that there must be Poor-law institutions, and that if there is to be only one authority it must be that of the Poor-law reorganised in sufficiently large areas and able to deal with every kind of need according to its character. He questions the material advantages claimed for a single authority, and asks whether the divided action of the three systems (Public Health, Poor-law, and voluntary effort) is necessarily injurious, expressing the hope of a harmonious coördination of them. In a memorandum which follows his statistical tables (Memorandum C. I.) Mr. Booth observes that it is in supplementing the general medical system of the country and not in supplanting it that the Poor-law finds its proper sphere, and he suggests that organisation and coöperation will meet difficulties of overlapping between the Poor-law, voluntary agencies, provident dispensaries, and sick clubs. He considers that the Poor-law must give relief to those who, needing it, fail to obtain assistance in any other way, and that conferences between the representatives of voluntary institutions and Poor-law representatives would tend to make clear the position of the Poor-law on the medical side. In short, Mr. Booth is not anxious to make any drastic change. His scheme is one having for its object the utilisation of existing agencies and the increase of their efficiency rather than the substitution of new ones for them, and he does not aim at or favour the enlargement of the sphere of the Poor-law either in the matter of aid to the sick or of the other subjects with which it is concerned. Coming as they do now, after the public has accustomed itself to the demands for drastic change made in the Majority Report, and still more so in that of the Minority, Mr. Booth's proposals will not, perhaps, meet with the amount of attention which assuredly they would have enjoyed if they had been incorporated in the original Blue-book. In their retention of much that has been vigorously denounced, in their claim for the adaptation of existing machinery and their obvious tendency to render unnecessary "the breaking up of the Poor-law," they would meet in the form of a Bill presented to Parliament with a very hostile reception from a large section of the political world. In their present form, moreover, they are perhaps undesirably destitute of detail and free from elaboration of fact and argument. They constitute, however, a notable contribution to the great question at issue and one particularly interesting to the medical profession, when the more radical changes proposed in the other two schemes are taken into consideration.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

MEETING OF COUNCIL.

A QUARTERLY meeting of the Council was held on April 14th, the PRESIDENT, Mr. BUTLIN, being in the chair.

A letter, dated March 3rd, 1910, from the Privy Council was considered. It communicated a resolution of the Executive Committee of the General Medical Council adverse to the proposal of this College to omit certain words from the conclusions adopted by the General Medical Council in regard to the Anæsthetics Bill, 1909. It was resolved to reply as follows:—

That the receipt of the letter from the Privy Council communicating the resolution of the Executive Committee of the General Medical Council be acknowledged, and that the Lord President be informed that the Council of the Royal College of Surgeons of England do not regard the contingency put forward by the Executive Committee of the General Medical Council as likely to arise. The Council of the College does not contemplate, and their experience as operating surgeons does not lead them to suppose, that dentists will be asked to administer an anæsthetic in general surgical practice other than in slight operations and on rare occasions, but they do think it will be opposed to the advantage of the public and prejudicial to the convenience of medical practitioners, especially in country districts, if it is made illegal for dentists to administer nitrous-oxide gas (and the other anæsthetics, if any, to be specified as employable by them) for operations performed by qualified medical practitioners. The Council desire to draw the attention of the Lord President to the fact that their body consists of surgeons actively engaged in operative surgical practice, whereas the Executive Committee of the General Medical Council, which dissented from the alteration proposed by the Council of the Royal College of Surgeons, consisted, with only two exceptions, of members not engaged in the practice of surgery.

The Jacksonian Prize for the year 1909 was awarded to Mr. W. Girling Ball, F.R.C.S., for his dissertation on "The Treatment of Surgical Affections by Vaccines and Antitoxins." It was resolved that the subject for the Jacksonian Prize for the year 1911 should be "The Diseases of the Pancreas, with Special Reference to their Surgical Treatment."

The Triennial Prize was not awarded. It was resolved that the subject for the next Triennial Prize should be "The Anatomy and Physiology of the Pituitary Body, and the Relationship with Disease of its Abnormal and Morbid Conditions."

The two following Members of 20 years' standing were elected Fellows. Mr. John Reuben Lunn, resident medical superintendent of the St. Marylebone Infirmary; and Mr. Andrew Melville Paterson, professor of anatomy, University College, Liverpool.

It was resolved to award the honorary medal of the College to Dr. Robert Fletcher, M.R.C.S., of Washington, U.S.A., in recognition of his distinguished labours in connexion with the publication of the Index Medicus and the Index Catalogue of the Library of the Surgeon-General's Office, Washington.

The PRESIDENT reported the delivery of two Hunterian

Lectures by Dr. C. Bolton and two by Mr. George Coats, and one Arris and Gale Lecture by Mr. Sidney Scott.

Diplomas of Member were conferred upon the undermentioned gentlemen, who have now complied with the necessary byelaws, having previously passed the examinations of the Conjoint Board:—Noel Leicester Clarke, B.A. Cantab., Cambridge University and London Hospital; Andrew Samuel Moorhead, M.B. Toronto, Toronto University and London Hospital; and George Ernest Vilvandré, A.C.P., London Hospital.

WOMEN RESIDENTS IN GENERAL HOSPITALS.

A MANCHESTER DISCUSSION.

THE Medico-Ethical Society of Manchester had as visitors at its session of Tuesday (April 12th) some 20 members of the Northern Association of Medical Women (Manchester branch) to discuss the question of the admission of women to resident posts in general hospitals. The topic has a special interest for Manchester, of course, in view of the recent refusal of the Manchester Royal Infirmary Board to admit women graduates to resident posts in that institution—a refusal that has brought upon that body criticisms from many sources, medical and other. Sir WILLIAM J. SINCLAIR presided over a very good muster of members, for it was expected that the debate would prove lively.

The case in favour of the admission of women was "led" by Dr. MARGARET MERRY SMITH, inspector of midwives in Manchester, who dealt with the subject very fully in a paper. First she outlined the history of medicine as a profession for women, mentioning that there was a woman on the first Medical Register—so far back as 1859. It was no new thing, therefore. Dr. Merry Smith then went on to deal with the present position of women in medicine, first as students, next as graduates. She described the "facilities" offered at various medical schools for the study of medicine by women, and, summing up, expressed the opinion that on the whole they compared favourably with those open to men. It was not till after graduation that the medical woman's difficulties began. At this point her opportunities, which so far had been virtually equal to a man's, became less good, though, fortunately, they were improving. Her attempts to get general experience in the form of general hospital work brought her face to face with such objections as "lack of accommodation," "woman's inability to agree with ward sisters," and so on—objections which she thought might be put at their true worth in one word—prejudice. The whole question as to the admission of a woman to a resident post in a general hospital rested on this: Was she a fit and proper person? Did she possess the same qualities as would entitle a man to hold such a position? This depended on three things—record of work, experience, and the personal character of the individual. As to the record of work, women's college records might be, and were often, just as good as men's; as to experience, they were handicapped for senior posts, but for junior posts they had equal experience with men—namely, *nil;* and as to personal character, women had the same common-sense, kindness, and physical capacity for the work as men had. Women had been found to get on with their colleagues just as well as men—neither better nor worse. Relations with ward sisters were not always so strained as was suggested. Surely it was personality and not sex that mattered. As to the argument that women themselves object to a woman doctor, it was a fact that however they might do so in theory, in practice they accepted her. And as to the suggestion that for a woman to attend to a male patient was shocking to male modesty, it must not be forgotten that the argument cut both ways. Ability and special skill were, after all, the whole basis upon which medical attendance, by man or woman, depended. Women doctors had come to stay, said Dr. Merry Smith in conclusion, and that being accepted it was only right and proper they should be given ample opportunities for fitting themselves for their work.

Dr. C. MACFIE, speaking in support of the principle, made the same point as Sir William Sinclair had made in introducing Dr. Merry Smith. He said that in admitting women to medical schools they admitted them to all positions a male medical student might occupy. Dr. Macfie added that the only argument he had heard against women doctors, or one of the few that had attracted his attention, was based on the ground of the "neurotic element" in women. He fully supported the admission of women doctors to all positions that men doctors might occupy, but he thought it was a fact that women were less able to rise to an emergency than men.

Dr. C. G. L. SKINNER thought that where the highest courage was wanted women were the equal of men, though they might not show up so well in minor emergencies. History supported his contention. Calmness in emergency was an acquired thing—acquired by training, experience, and heredity even. With the greater opportunities for development that women now had he did not doubt that they would soon be in every way man's equal in this respect, if not his superior.

Sir WILLIAM SINCLAIR then called for any views there might be in opposition to those put forward. None were forthcoming and it was gathered that all the people present, both men and women, were in favour of the proposition. This seemed to take the gathering by surprise and to cause some disappointment, particularly to the ladies, who had come in numbers to champion their cause, some of them well primed with facts and modern instances.

As the debate was in danger of petering out altogether, Sir WILLIAM SINCLAIR called on one member after another by name, and each under mild protest attested his full agreement with the case put forward by Dr. Merry Smith. But this they did in various picturesque ways.

Dr. E. VIPONT BROWN, whom Sir W. Sinclair facetiously styled "the leader of the opposition," said that to admit women to the fuller training of a general hospital after admitting them to medical schools was the only logical position that anyone could take up. To defy the logic of this was "absolute cheek."

Mr. W. F. DEARDEN said that if the suggestion that women should be confined to hospitals for women and children was adopted it would be only logical to suggest a similar restriction for men; and that, a subsequent speaker, Mr. F. FARROW, pointed out, would mean the limitation of men to men and, say, old women, who would be about an equivalent for the children.

Sir WILLIAM SINCLAIR here remarked that the suggestion made in "a certain place" that women doctors should stick to diseases of woman was to him appalling.

Mr. FARROW also attributed the prejudices of lay boards to medical women to the "arrant conservatism" of the nation, and he thought it behoved the medical profession to educate people "out of it."

Dr. A. W. W. LEA spoke of that meeting as an instance of the change that had come over medical men in their attitude towards medical women since the day when Sir William Jenner resigned from the Council of the British Medical Association rather than agree to the admittance of women.

Mr. L. SAVATARD differed from Dr. Macfie in thinking the neurotic element was more common in women. For his own part he had come across just as much of it in men.

Dr. OLIVE CLAYDON, Dr. CATHERINE CHISHOLM, Mr. C. R. O. GARRARD, Dr. FRANCES HARPER, and Dr. A. C. GEORGE also spoke.

THE MEDICAL CURRICULUM OF THE UNIVERSITY OF BRISTOL.—Concurrently with the introduction of examinations for degrees, consequent on the change from a university college to a university, it has been found advisable to make certain changes in the arrangements for teaching medicine and the allied subjects in the Bristol school. Whole-time demonstrators of anatomy and physiology have for the first time been appointed. Arrangements for clinical teaching at the Royal Infirmary and General Hospital have been devised in order to bring these two institutions into closer coördination than before, and to provide students with a series of clinical demonstrations in the wards and in the general and special out-patient departments. The practice of these latter departments has been further thrown open to students by the institution of various clerkships and dresserships, and the Children's Hospital receives a more definite status as a teaching centre than heretofore.

Public Health.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Borough of Sutton Coldfield.—The facilities which exist in this borough for the gratuitous examination at Birmingham University of swabs from suspected cases of diphtheria are being appreciated by the medical practitioners, but Dr. A. Bostock Hill utters a word of caution as to the importance of securing at least two negative reports before a case is regarded either as not diphtheria or as free from infection. This is certainly a wise precaution, as it is to be feared that in many places practitioners are content with one negative report. Dr. Hill also draws attention to the importance of making use of the free provision of antitoxin. As we have on several occasions pointed out in these columns, it is astonishing that many cases of diphtheria in different parts of the country are found on admission to isolation hospitals not to have had antitoxin administered to them, a fact which is a very serious criticism upon the attending practitioner. Dr. Hill is not in favour of the promiscuous closing of schools in connexion with the spread of infectious diseases, and as a general rule he only regards closure as necessary with the view of preventing the spread of measles in the case of infant schools. He thinks it best to close such a school for a fortnight on the appearance of the first two or three cases in the hope that any children then infected will develop the disease before the school is reopened.

Chelmsford Rural District.—During 1909 a complaint was made by one of the parish councils in this district that there was a deficiency of cottage accommodation. The district council being asked to provide cottages under the Housing of the Working Classes Act, Dr. J. C. Thresh made an inquiry into the circumstances of the parish, but was unable to report that there was serious lack of cottages. The existing rents appeared low—some at £5 and even £4—and the labourers alleged that if new houses were provided they could not afford to occupy them. But Dr. Thresh reported that in the interests of morality larger cottages are desirable, and that the existing conditions drive all the brighter young adults out of the parish. He also reminds the district council that cottages erected by sanitary authorities cost much more than those erected by private persons, although he is unable to explain why this is so. He clearly thinks, and there is much to be said for the view, that the farmers should provide cottages for their labourers, and he gives an example of farms in another parish where, with a total acreage of 950 acres belonging to one owner, there is not a single cottage belonging to the farms. In this connexion he observes that so long as there is no legal power to compel landowners to provide their quota of cottages so long will Housing Acts prove inefficient, since the parishes naturally object to being asked to provide cottages for the benefit of the landlords. This lack of decent cottages drives, Dr. Thresh adds, all the best blood out of the villages and leads to the farmers preferring to employ unmarried men or men with small families. In his opinion it is to be regretted that tents and sheds do not come under the new Housing Act, since a family may be turned out of an old cottage and occupy a tent, thus accentuating difficulties which have already arisen in connexion with these tent dwellers.

Borough of Reigate.—Dr. A. E. Porter furnishes in his current annual report a useful illustration of the difficulty of administering small isolation hospitals in the absence of a resident medical officer. He points out that in the Reigate Hospital there is no observation ward and no provision for cases of mixed infection. This hospital is now used, not for the isolation of all cases, but for cases selected for admission on the basis of their home conditions. In connexion with the cases of scarlet fever discharged last year from this hospital, 76 in number, there were 10 "return" cases, while among the 22 cases treated at home but 1 "return" occurred, this patient having been allowed, against instructions, to sleep in the same room as his brother on the night after he left the sick room. Apparently all these "return" cases occurred before the selective method of admission referred to above was practised, and Dr. Porter is curious to see how far the "return" case incidence will be affected by the change. The bacteriological examination of the throats of school-children is carried out in a very systematic manner in this district and some instructive results have been obtained. For example, one child who was treated at home had a mild attack of diphtheria on Oct. 8th, 1908, and swabs were found to yield the typical bacillus until July 25th, 1909, notwithstanding all kinds of local treatment. There seems to have been no doubt as to the identity of the bacillus, which on March 5th was virulent for guinea-pigs at the Lister Institute. Some administrative trouble was caused at the hospital in the early part of 1909 by diphtheria infection in the scarlet fever wards, which was regarded as due to the admission of scarlet fever patients with the double infection. Unfortunately, the fact was only discovered when several of the patients had been discharged, and consequently the throats of all the 31 patients who had returned home within the previous two or three months were examined, with the result that 10 were found to be infectious while 8 more had Hofmann's bacillus in either the throat or the nose. The other inmates of the invaded houses were also examined and three were found to be harbouring the diphtheria bacillus. Nine of the healthy infectious persons were removed to the diphtheria wards, and it is not clear whether any of them developed the disease either from the bacilli they were carrying on admission or from any which they may have acquired afterwards. It is now the practice at this hospital to examine bacteriologically all scarlet fever patients on admission, those having a double infection being isolated in the small block designed for enteric fever. Dr. Porter is to be congratulated on having set out the facts so candidly, and everyone who has had experience of the matter will agree with him that "the administration of a hospital for infectious diseases is not so simple a matter as might appear on the surface," and it is probable that the more bacteriological examination is made use of the more difficult administration will become.

Borough of Southend.—Dr. C. G. Pugh estimates the population of this borough at the middle of 1909 at 61,268, but the average resident population during the summer months is considerably above this figure owing to the influx of visitors, excursionists, and servants. The birth-rate for 1909, calculated on the above estimate, was 18·59 per 1000, and the death-rate 10·29 per 1000. The number of uncertified deaths was 6·9 per cent. of the total deaths, and Dr. Pugh finds it difficult to explain satisfactorily this high rate. He thinks that inquests should be held as to the cause of death of all children unless a medical certificate is forthcoming, and he furnishes details as regards the death of an adult which show how easy it may be for people to die from negligence or poisoning when no inquest is insisted upon. The infantile mortality, which, as is the case of so many other towns, has shown a marked decrease during quite recent years, amounted in 1909 to only 74·62 per 1000 births, a circumstance which was almost entirely due to the non-occurrence of summer diarrhœa. There were nine deaths amongst illegitimate children—i.e., a rate of 243 per 1000, as compared with a rate of 69 per 1000 amongst legitimate births. Only one of the nine children who died was breast-fed. For the first time in the history of the borough there was no death from enteric fever, while only one indigenous case of this disease was notified. In 1908 there were 20 cases with one death, and Dr. Pugh points out that as the result of modernising the drainage in the older portion of the town, and of the care to prevent the consumption of polluted shell-fish, a marked fall in the prevalence of enteric fever took place between 1893 and 1904, the indigenous case-rate having been 9·7 per 1000 in the former year as against 0·23 in the latter. Since then the incidence of the disease has remained approximately constant, the majority of cases which have occurred being associated with the consumption of oysters either picked up by the patient or his friends from the foreshore of the Thames or bought from street hawkers who have obtained them in a similar fashion. At Dr. Pugh's suggestion watchers were employed by the corporation in 1908 to prevent unauthorised persons from collecting shell-fish either for their own consumption or for purposes of sale, but as this precaution proved ineffectual the pier committee leased the foreshore to the Southend Shell-fish Company at a rental of £10 per annum, it being one of the conditions of the lease that no shell-fish, except cockles, should be removed from the foreshore by the tenants except for being placed in suitable beds for cleansing; while as regards cockles it was stipulated that

they should be boiled, steamed, or otherwise treated by the tenants so as to render them sterile from a bacteriological point of view. It appears that the company are faithfully carrying out their obligations, and they have on several occasions taken proceedings against offenders. The inference would seem to be that steamed cockles are without danger to the consumers, and it would be instructive to learn what bacteriological tests have been applied, and the locality of the approved beds to which the other shell-fish are removed for cleansing purposes, as well as the findings of the bacteriologists in connexion with shell-fish removed from such beds. Much of the credit for dealing with the Southend shell-fish difficulty is due, Dr. Pugh adds, to the efforts of the previous medical officers of health, Dr. A. Clough Waters and Dr. J. T. C. Nash. Reviewing the past prevalence of enteric fever in Southend Dr. Pugh thinks that although the consumption of polluted shell-fish was unquestionably the main cause of its excessive prevalence, it is possible that other factors, even now not definitely recognised, may have assisted towards the same end, but whether this was so or not such factors are certainly not now operative.

ANNUAL REPORTS OF SCHOOL MEDICAL OFFICERS.

Borough of Richmond.—The school medical officer in this district is the medical officer of health, Dr. J. H. Crocker, an assistant school medical officer having been appointed for the purpose of the medical inspection of the children. During 1909 there were 885 children inspected in the infants' department and 318 in the upper departments, i.e., 1203 in all. The total number found with some defect and not undergoing any treatment was 27 per cent. of those examined, or, excluding the children with defective teeth, 10 per cent. The facilities which obtain in Richmond for the treatment of the defects discovered are considerable, and they embrace the out-patient department of the Richmond Royal Hospital, which includes an ophthalmic department, general practitioners who have devoted special attention to vision estimation and who examine for a small fee, and other medical institutions, such as the Richmond Dispensary and the Petersham Dispensary. With all these facilities for treatment it is not surprising to find that, excluding cases of defective teeth, at least 50 per cent. of the defective conditions were immediately attended to by the parents. As regards the dental conditions the results were less satisfactory, as out of 206 children with defective teeth 89 could not be accounted for owing to the fact of their having left school, while of the remaining 117 only 18 had been to a dentist. Systematic arrangements are made in Richmond for the disinfection of the elementary schools, each school being supplied with a spraying apparatus and a quantity of formalin. At least once a term the rooms, desks, and suchlike are sprayed, and a similar disinfection is carried out after the occurrence of any case of infectious disease amongst the scholars.

County Borough of Bournemouth.—Dr. A. D. Edwards, who is the deputy school medical officer, in presenting his report for 1909, states that as regards medical treatment it was found upon visiting the homes of the patients that 382 out of the 770 defects requiring treatment had already received attention and that arrangements for treatment had been made in the case of an additional 75. As he claims, these conditions are by no means unsatisfactory at this early stage. Dr. Edwards reserves judgment as to the quality of the treatment received and is content to state that 59·3 per cent. of the cases have received attention from qualified men. With reference to the question of tuberculosis and school children Dr. Edwards states that although he was unable to detect much definite tuberculosis amongst the children there were many whom he considered to be in the incipient stage of the disease, and these children he has marked for repeated examination. As he points out, these are the children who in Germany—and, we may add, largely in France too—would be drafted off to open-air schools or seaside sanatoriums. We should, however, be interested to learn what are the signs and symptoms of the condition which Dr. Edwards regards as incipient tuberculosis. As is well known, some of the French authorities claim to have discovered a pre-tuberculous condition in a large number of Parisian children, but English practitioners cannot recognise this condition as so definite a one that rules for its diagnosis can be laid down.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 77 of the largest English towns 8696 births and 4872 deaths were registered during the week ending April 16th. The annual rate of mortality in these towns, which had steadily increased in the four preceding weeks from 13·5 to 14·9 per 1000, further rose to 15·0 in the week under notice. During the 13 weeks of last quarter the annual death-rate in these towns did not exceed 15·0 per 1000, and was no less than 3·0 below the average rate in these towns in the four preceding corresponding quarters; in London the mean rate during last quarter was only equal to 14·9 per 1000. The lowest reported annual rates of mortality in the 77 towns during last week were 4·2 in Hornsey, 6·8 in King's Norton, 7·6 in Burton-on-Trent, and 8·3 in East Ham and in Tynemouth; the rates in the other towns ranged upwards, however, to 20·3 in Newport, 20·7 in Liverpool, 21·0 in Merthyr Tydfil, and 23·3 in Stockport. In London the recorded death-rate last week did not exceed 14·8 per 1000. The 4872 deaths registered in the 77 towns during the week showed a further slight increase of 15 upon the numbers returned in the four preceding weeks, and included 383 which were referred to the principal epidemic diseases, against 317, 332, and 362 in the three previous weeks; of these 383 deaths, 143 resulted from whooping-cough, 117 from measles, 39 from diphtheria, 35 from scarlet fever, 34 from diarrhœa, and 15 from enteric fever, but not one from small-pox. The mean annual rate of mortality in the 77 towns during the week from these epidemic diseases was equal to 1·2 per 1000, against 1·0 and 1·1 in the two preceding weeks. No death from any of these epidemic diseases was registered last week in Leicester, Walsall, Hornsey, Northampton, or in nine other smaller towns; the annual death-rates therefrom ranged upwards, however, to 3·0 in Hastings and in Bootle, 4·3 in Devonport, and 5·2 in Merthyr Tydfil. The fatal cases of whooping-cough in the 77 towns, which had steadily increased in the seven preceding weeks from 100 to 151, declined again last week to 143, but caused annual death-rates equal to 1·4 per 1000 in Liverpool and in Grimsby, 2·3 in Hastings, and 2·5 in Devonport. The deaths from measles, which had been 78, 93, and 104 in the three preceding weeks, further rose last week to 117; the highest death-rates from this disease during the week were 1·2 in Bradford, 1·7 in Burton-on-Trent, 2·2 in Bootle, and 5·2 in Merthyr Tydfil. The 39 deaths referred to diphtheria showed an increase of 4 upon the number returned in each of the two preceding weeks, and included 13 in London and its suburban districts, 5 in Birmingham and King's Norton, 7 in Manchester and Salford, 3 in Sheffield, and 2 both in Leeds and in Sunderland. The 35 fatal cases of scarlet fever also somewhat exceeded the numbers in recent weeks; 4 occurred in Birmingham and in Liverpool, 3 in Leeds, and 2 in Walthamstow, in Portsmouth, and in Nottingham. The deaths attributed to diarrhœa during the week were 34, against 30 and 27 in the two previous weeks. The 15 deaths referred to enteric fever were fewer by 2 than the number in the preceding week; 8 were returned in London and 2 in Derby. The number of scarlet fever patients under treatment in the Metropolitan Asylums and in the London Fever Hospital, which had steadily declined in the 26 preceding weeks from 2819 to 1554, had further fallen to 1535 on April 16th; 197 new cases of this disease were admitted to these hospitals during last week, against 158 and 166 in the two preceding weeks. The Metropolitan Asylums Hospitals contained no small-pox patient on Saturday last. Of the 1387 deaths registered in London during the week under notice 312 were referred to pneumonia and other diseases of the respiratory system, showing an increase of 31 upon the number in the previous week; they were, however, 23 below the corrected average number in the corresponding week of the five years 1905–09. The causes of 42, or 0·9 per cent., of the deaths registered in the 77 towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death registered during the week were duly certified in Leeds, Sheffield, Bristol, West Ham, Bradford, Newcastle-on-Tyne, and in 51 other smaller towns;

the 42 uncertified causes of death in the 77 towns included 10 in Liverpool, 4 in Gateshead, and 3 each in Coventry, Stoke-on-Trent, St. Helens, and Rochdale.

HEALTH OF SCOTCH TOWNS.

In eight of the principal Scotch towns 934 births and 669 deaths were registered during the week ending April 16th. The annual rate of mortality in these towns, which had been equal to 15·3, 18·1, and 18·2 per 1000 in the three preceding weeks, further rose to 18·5 in the week under notice. During the 13 weeks of last quarter the annual death-rate in these towns averaged 17·5 per 1000, and exceeded by 2·5 the mean rate during the same period in the largest English towns. The annual death-rates during last week in these eight Scotch towns ranged from 5·6 and 9·0 in Perth and Aberdeen, to 26·9 in Greenock and 28·5 in Dundee. The 669 deaths from all causes in the eight towns during the week showed a further increase of 10 upon the numbers in the two previous weeks, and included 97 which were referred to the principal epidemic diseases, against 77, 82, and 123 in the three preceding weeks. These 97 deaths were equal to an annual rate of 2·7 per 1000; the mean death-rate from the same diseases in the 77 English towns last week did not exceed 1·2 per 1000. These 97 deaths in the Scotch towns last week included 64 from measles, 15 from diarrhœa, 8 from diphtheria, 6 from whooping-cough, 2 from scarlet fever, and 2 from "fever," but not one from small-pox. The fatal cases of measles, which had been 43 and 74 in the two preceding weeks, declined again to 64 last week; they included 29 in Dundee, 17 in Glasgow, 9 in Greenock, 6 in Edinburgh, and 2 in Leith. The 15 deaths attributed to diarrhœa showed a further decline from the high numbers in the two previous weeks; 6 were returned both in Glasgow and in Dundee. The 8 fatal cases of diphtheria showed a decline, but included 4 in Glasgow and 2 in Paisley. Of the 6 deaths from whooping-cough, corresponding with the number in the previous week, 4 occurred in Glasgow. The 2 fatal cases of scarlet fever were fewer than in any recent week. The 2 deaths referred to "fever" were both returned in Edinburgh, one being certified as enteric and one as cerebro-spinal meningitis. The deaths in the eight towns referred to diseases of the respiratory system, which had been 122 and 114 in the two preceding weeks, rose again to 126 in the week under notice, but were 9 below the number in the corresponding week of last year. The causes of 18, or 2·7 per cent., of the deaths in the eight towns last week were not certified or not stated; in the 77 English towns the proportion of uncertified causes of death did not exceed 0·9 per cent.

HEALTH OF IRISH TOWNS.

In 22 town districts of Ireland, having an estimated population of 1,151,790 persons, 644 births and 512 deaths were registered during the week ending April 16th. The mean annual rate of mortality in these towns, which had been equal to 20·7 and 23·2 per 1000 in the two preceding weeks, was again 23·2 in the week under notice. During the 13 weeks of last quarter the annual death-rate in these Irish towns averaged 21·8 per 1000, whereas the mean rate during the same period did not exceed 15·0 in the 76 largest English towns, and 17·5 in the eight principal Scotch towns. The annual death-rate during last week was equal to 21·5 in Dublin, 24·9 in Belfast, 22 6 in Cork, 20 4 in Londonderry, 20·5 in Limerick, and 33·1 in Waterford; the mean annual death-rate last week in the 16 smallest of these Irish town districts was equal to 23·8 per 1000. The 512 deaths from all causes in the 22 town districts last week corresponded with the number in the previous week, and included 39 which were referred to the principal epidemic diseases, against 26 and 34 in the two preceding weeks; these 39 deaths were equal to an annual rate of 1·8 per 1000; in the 77 English towns the mean rate during last week from the same diseases did not exceed 1·2 per 1000, but in the eight Scotch towns it was equal to 2·7. The 39 deaths from these diseases in the Irish towns last week included 17 from measles, 9 from whooping-cough, 5 from diarrhœa, 5 from typhus, 2 from other forms of "fever," and 1 from diphtheria, but not one either from scarlet fever or small-pox. The fatal cases of measles, which had been 6 and 11 in the two previous weeks, further rose to 17 last week, all of which occurred in Belfast. The 9 fatal cases of whooping-cough, however, were fewer by 6 than the number in the previous week, but included 5 in Belfast and 2 in Dublin. Of the 5 deaths from typhus, 2 occurred in Dublin, 2 in Waterford, and 1 in Galway. Two of the 5 deaths from diarrhœa and a fatal case of enteric fever were returned in Dublin. The deaths in the 22 town districts referred to pneumonia and other diseases of the respiratory system, which had been 102 and 129 in the two preceding weeks, declined again to 121 last week. The causes of 30, or 5·9 per cent., of the deaths registered in the Irish towns last week were not certified; in the 77 English towns the proportion of uncertified causes of death last week did not exceed 0·9 per cent., and in the eight principal Scotch towns it was equal to 2·7 per cent.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Fleet-Surgeons: E. R. Dimsey, D.S.O., to the *St. Vincent*, on commissioning; G. G. Borrett, to the *Lord Nelson*; L. Bidwell, to the *Crescent*; J. Andrews, to the *Exmouth*; W. J. Colborne, to Pembroke Dockyard; C. S. Woodwright, to the *Leviathan*; and C. Bradley, to the *Roxburgh*. Staff-Surgeons: F. F. Lobb, to the *Ganges*, for Shotley Training Establishments and for duties in connexion with physical training; J. Boyan, to the *Pembroke*, for R.N. Barracks, temporary; R. M. Richards, to the *Vivid*, additional, for the *Theseus*; and H. C. Whiteside, to the *Vivid*, additional, for disposal. Surgeons: A. T. Rivers, to the *St. Vincent*, on commissioning; H. S. Turner, to the *Lord Nelson*; and J. E. Johnston, to the *Ringdove*.

ROYAL ARMY MEDICAL CORPS.

Lieutenant Wilfrid W. Treves is seconded under the provisions of Article 300, Royal Warrant for Pay and Promotion, 1909 (dated April 1st, 1910).

Lieutenant-Colonel H. Cocks, on return from a tour of service in India, has been appointed to the Western Command. Lieutenant-Colonel S. R. Wills has been posted to the Seventh (Meerut) Division, India, and appointed to command the station hospital at Agra, United Provinces. Lieutenant-Colonel H. W. Austin has been transferred from Glasgow to Aldershot. Lieutenant-Colonel F. G. W. Gordon-Hall, from Muttra, has joined at Glasgow for duty. Lieutenant-Colonel C. H. Burtchaell, Staff Officer to the Principal Medical Officer, Irish Command, has been selected for the appointment of Assistant Director-General, Medical Department, War Office. Lieutenant-Colonel D. M. Saunders, Sanitary Officer, Dublin District, has been posted to Cork, with effect from April 13th. Lieutenant-Colonel H. A. Haines, from Fyzabad, has been posted for duty to the Southern Command, and Lieutenant-Colonel H. P. G. Elkington, from Jhansi, has been appointed to the Irish Command. Major C. Dalton has been selected to officiate as Staff Officer to the Principal Medical Officer, Irish Command. Major W. D. Erskine has been transferred from York to Strensall. Major J. D. Macpherson, from Meerut, has been appointed to command the station hospital at Pachmari. Major A. F. Tyrrell, from Cork, has been posted to Queenstown. Major T. W. Gibbard, from Dagshai, has been appointed to London District and placed in charge of the Military Hospital at Rochester-row. Major T. B. Beach, from the Royal Arsenal, Woolwich, has been transferred for duty in the Aldershot Command. Major John M. Buist, on arrival from Wynberg, Cape Colony, has been posted to the Southern Command. Major G. E. F. Stammers, Sanitary Officer, Southern Command, has had his appointment extended by six months. Major E. B. Steel has been transferred from Neemuch to Jhansi. Major C. H. Hopkins has been transferred from the Indian to the Home establishment. Major G. B. Riddick has been appointed a specialist in electrical science to the Burma Division. Captain O. L. A. Webb, from the Royal Army Medical College, has embarked for West Africa. Captain E. G. Ford, from Bradford, has been posted to Rawalpindi for duty. Captain J. H. Campbell has been transferred from Allahabad to Lucknow. Captain W. Riach has arrived home on leave from West Africa. Captain F. M. M. Ommanney, from Aden, has been posted to the Eastern Command. Captain H. H. Norman has been granted six months' leave from India.

INDIAN MEDICAL SERVICE.

Lieutenant-Colonel E. Jennings, Superintendent of the Central Prison at Bareilly, has been transferred to Fategarh, United Provinces. Lieutenant-Colonel C. N. Bensley has arrived home on leave. Lieutenant-Colonel H. Greany, Senior Medical Officer, Ceylon, has been granted two years' furlough. Major W. W. Clemesha has been confirmed in his appointment as Sanitary Commissioner of Bengal Presidency. Major C. B. Prall, superintendent of the Central Prison at Lucknow, has been transferred to Bareilly and appointed superintendent of the central prison at that station. Major G. H. Frost, in medical charge of the Fourth Gurkha Rifles, Bakloh, has arrived home on leave. Captain D. McCay has been granted one year's leave from India. Captain A. M. Fleming, Civil Surgeon at Raipur, has been placed in medical charge of the Bilaspur District. Captain J. F. Boyd has been appointed medical officer in charge of the 57th Wilde's Rifles, Frontier Force, at Bannu, vice Captain C. E. Southon. Captain H. H. Thorburn, attached to the 82nd Punjabis in the Malakand, has been granted one year's leave out of India. Captain E. C. C. Maunsell, 94th Russell's Infantry, has arrived home on leave. Lieutenant J. J. H. Nelson, medical officer attached to the 88th Carnatic Infantry, has been appointed a specialist in the Prevention of Disease at Bangalore.

TERRITORIAL FORCE.

Yeomanry.

Westmorland and Cumberland: Surgeon-Major Joseph E. Bowser resigns his commission and is granted permission to retain his rank and to wear the prescribed uniform (dated Feb. 22nd, 1910).

Royal Army Medical Corps.

3rd East Anglian Field Ambulance: Major and Honorary Surgeon-Lieutenant-Colonel Harry Thornton Challis, from the list of officers attached to units other than medical units, to be Major, with the honorary rank of Surgeon-Lieutenant-Colonel (dated Feb. 1st, 1910).

1st South-Western Mounted Brigade Field Ambulance: Robert Pounden Beatty to be Lieutenant (dated Feb. 15th, 1910).

1st West Riding Field Ambulance: Lieutenant Alexander B. S. Stewart to be Captain (dated Feb. 15th, 1910).

2nd London (City of London) General Hospital: Hugh Mallinson Rigby to be Captain, whose services will be available on mobilisation (dated March 19th, 1910).

For attachment to Units other than Medical Units.—James Leonard Joyce to be Lieutenant (dated Jan. 5th, 1910). James Mathieson Kirkness to be Lieutenant (dated Feb. 1st, 1910). Stanley Fox Linton to be Lieutenant (dated Feb. 9th, 1910). Frederick William Sydenham to be Lieutenant (dated Feb. 11th, 1910).

Attached to Units other than Medical Units.—Lieutenant David Westwood to be Captain (dated Jan. 28th, 1910). Captain Alexander Roxburgh resigns his commission (dated Feb. 22nd, 1910). Lieutenant John Allan to be Captain (dated Oct. 7th, 1909). Lieutenant Horatio W. A. Cowan resigns his commission (dated Feb. 23rd, 1910).

THE BRITISH RED CROSS SOCIETY.

The Hon. Mrs. Charles White presided at a meeting held at Aldershot on April 15th, when Sir Frederick Treves gave an address in which he urged the necessity of forming a first-aid branch of the Red Cross Society at Aldershot and Farnborough. On the proposal of Lord Winchester it was unanimously decided to form a voluntary first-aid detachment.

A meeting was held at Penarth on April 14th in support of the objects of voluntary first-aid detachments, when an address was delivered by Mr. J. Lynn Thomas, C.B. He pointed out that in the county of Glamorgan the movement had spread very rapidly, mainly owing to the active part taken in the work by Lady Plymouth. In the event of an invasion the only base hospital in the whole of Wales during mobilisation would be located at Cardiff, and it might be assumed that the rich coal-fields of the district would be the chief objective of an invading force. He had no hesitation in saying that in case of need a fully equipped hospital would be provided for the district in six days.

Correspondence.

"Audi alteram partem."

THE MIDWIVES BILL AND POOR-LAW RELIEF.

To the Editor of THE LANCET.

SIR,—Mrs. Sidney Webb, indefatigable in her advocacy of the Minority Report, sees a lost opportunity in the amending Midwives Bill now before Parliament. Mrs. Webb objects to the guardians as the channel by which the fee is paid to any medical man summoned on the advice of a midwife in a case of emergency under Rule 18 of the Central Midwives Board. The Government, she says, proposes to make these mothers into paupers; "their homes will be visited by the relieving officer with his hated inquiries; often to the detriment (as any nurse or midwife will testify) to the woman's health." She suggests that the payment be made by the sanitary authorities, meaning presumably the local supervising authorities under the Midwives Act, 1902, the councils of counties and county boroughs, for she cannot mean the local sanitary authorities, which in all rural districts are the guardians in fact under another name. The county and county borough councils, then, should decide the patient's capacity to pay.

But is it conceivable that a county council should institute new and independent machinery for the investigation of the resources of about 200 cases in a year, when these resources are already known in most cases to the relieving officers? Would it not almost certainly employ the same relieving officers for the purpose? If not, would not the inquiries, in order to be efficient, be every bit as much hated as those of the relieving officers? What, then, would be the advantage of dualising existing procedure for determining the resources of those who benefit by public medical relief?

No, Sir; the fact is that Mrs. Webb's argument is opposed to inquiries of any kind. And although the Minority Report proposes the appointment of a public assistance officer with a staff of inquiry and recovery officers—for which posts I have a shrewd idea that the present relieving officers would be successful applicants—its fundamental and logical idea is that medical relief should be free, in order that there may be no hindrance to its being invoked on every possible occasion to the benefit of the patient and so of the public health. This has been, in fact, except in a few large towns, the virtual result of every Act or regulation that has entrusted the recovery of charges to any authority other than the guardians; the cost and worry of the machinery were not equal to the sum recovered; recovery has been a dead letter.

The profession must consider the advantages and disadvantages of indiscriminate relief. But if discrimination is to be made the inquiries are bound to be hated; they must be limited to one set of officials, and if they are to be efficient they should be entrusted, as the Departmental Committee recommended (Report, Sec. 75), to "the authority primarily invested with the functions of public assistance." That authority at present is the board of guardians. In any case, if Clause 17 of the Bill becomes law the medical practitioner "shall be entitled to recover" his fee and the main obstacle to the smooth working of the 1902 Act is removed.

I am, Sirs, yours faithfully,

April 13th, 1910. F. E. FREMANTLE.

To the Editor of THE LANCET.

SIR,—I gather from the correspondence that is appearing in many newspapers that there is some misunderstanding as to the effect of Clause 17 of Lord Wolverhampton's Bill, which proposes to place upon the board of guardians the obligation of paying the fee of the doctor whom the midwife is under definite obligation to summon in case of danger. At present there is no statutory provision for the payment of the doctor. For an ordinary accident case, when he is summoned by the police, his fee is paid from municipal funds (Watch Committee). When summoned by the midwife his fee is, in Manchester, Liverpool, and some other places (under Section 133 of the Public Health Act), also paid from municipal funds (Health Committee). In neither case does the patient thereby become a pauper.

Meanwhile, on the suggestion of the Local Government Board, various boards of guardians have, under an Act of 1848, been paying the doctor's fee when he has been called in under the Midwives Act and applies to the board for his fee, though no board of guardians has yet presumed to pay the fee of the doctor called to an accident case by the police. Yet where the board of guardians makes this payment it is entered as parochial relief to the woman and her husband (who have not applied for assistance at all); the relieving officer is sent to make inquiries; the woman (and her husband) become paupers; their names are recorded as paupers; they are included in the statistics of pauperism; and they incur certain voting and other legal disabilities. Some people innocently deny this, because an Act of Parliament has said that the receipt of medical relief only shall not prevent a man from having his name entered on the register of Parliamentary electors. But all the other legal incidents of pauperism remain, together with its bad psychological reaction. Moreover, what has the Parliamentary Register to do with women?

Let no man imagine that the wrong which the Government is proposing to do to women is an imaginary one or a sentimental evil. I append a report of a recent meeting of midwives:—

A meeting was held at the East End Mothers' Home on March 8th, at which Miss Paget presided, and there was a good attendance of midwives. The question of doctors' fees was discussed. The chairman spoke on the question and then asked the midwives present to give their experience. All agreed that since the guardians of both boroughs had promised the fee when the patient was too poor to do so they had not much to complain of with regard to the doctor, but a great many of those present spoke of the way in which the relieving officer went (in some cases the same day) and worried the patients with questions as to their power to pay the fee themselves. One midwife said her patient had been so upset by the officer's visit that her temperature went up and the midwife feared she would have to send for the doctor again. In one case the father lost half a day's work because he was summoned before the board, when he said that it was impossible to pay both doctor and midwife out of his weekly wage of 21*s*.

The worst feature of the case yet remains to be stated. At present, even if the board of guardians does pay the doctor, the woman (and her husband) need not, if they knew their rights, give any heed to this officious action. It is, indeed, admitted by some unions that payments made under the Act of 1848 are not parochial relief, and are not recoverable. The patients cannot be forced to accept parochial relief. They need not accept it "on loan," and they are under no legal liability to reimburse the guardians at all. They could even successfully restrain the board of guardians from entering their names as paupers. The Local Government Board is aware of this. Now the Government is proposing compulsorily to make these poor people paupers, merely because the board of guardians has chosen to pay (not to them) a fee to a doctor whom Parliament (not they) has chosen to have called in.

I hope that the words "local supervising authority" (i.e., county or borough council) will be substituted for "board of guardians," and all reference to Poor-law relief omitted, thus assimilating the case to that of the doctor called in by the police to accident cases. Why should women be treated differently from men?

I am, Sir, yours faithfully,

BEATRICE WEBB.
(Mrs. Sidney Webb.)

Grosvenor-road, S.W., April 16th, 1910.

THE COMMON COLD: ITS MODERN TREATMENT.

To the Editor of THE LANCET.

SIR,—In THE LANCET of Nov. 28th and Dec. 5th, 1908, a paper was published by Dr. R. W. Allen dealing with the treatment of the "common cold" which, happily for me, I was fortunate enough to read. Subsequently you published a letter from Mr. Brudenell Carter giving his personal experiences of this method of treatment under Dr. Allen. The perusal of the above led me to consult Dr. Allen on June 20th, 1909. The history I gave him then was that for nearly 20 years I had been a martyr to catching catarrhs at the slightest provocation. Almost every change of weather affected me. My trouble almost invariably began in the post-nasal space, and within a short time spread to the larynx and trachea. I usually had a copious secretion from the nasal mucosa and the catarrh there had spread into the Eustachian tubes. The turbinates and post-nasal space had been cauterised frequently, but without any benefit from this or any other form of treatment. I could not sit before an open window or get into the smallest draught, or attend a night-call without the inevitable cold coming on. No one could have suffered more or more continuously from those annoying chills than I did.

Dr. Allen at once made a culture from my mixed nasal and laryngeal secretions, and on June 22nd gave me an injection of—

M. catarrhalis	75 millions.
B. influenzæ	25 ,,

As this and subsequent injections were given at about 6 P.M. the after-effects of one will answer for a description of the rest. I had a commencing "cold" when the first injection was given. About 3 A.M. I woke with a headache and some feverishness. After three or four hours this passed off, and during that afternoon I found my cold had wonderfully cleared up. I had never had such an experience before, as my trouble usually hung about me for a week or two. Thereafter I received the following injections at the dates mentioned:—

2/7/09	M. catarrhalis	75 millions.
	B. influenzæ	25 ,,
20/7/09	Repeated above.	
12/8/09	M. catarrhalis	250 ,,
	B. influenzæ	100 ,,
2/9/09	M. catarrhalis	375 ,,
	B. influenzæ	150 ,,
	B. septus	125 ,,
15/9/09 27/9/09 12/10/09 2/11/09	Repeated above.	

No more injections were then given until Feb. 17th, 1910, when I received an injection of—

B. influenzæ	250 millions.
M. catarrhalis	500 ,,
Pneumococcus	100 ,,
B. septus	125 ,,

Up to Feb. 17th I had not one cold during the winter and the slight cold coming on then was quickly cut short by the last injection. In reality, then, the injections had given me four months of complete immunity, a unique experience for me, and Dr. Allen's experience leads him to believe that, at first at least, this period of immunity is as much as can be hoped for. I have had no injection since February and no cold, and the great comfort and improvement I have experienced through the treatment impels me to write this letter.

Without the least intention of being unduly optimistic, I am, from my personal experience, a ready believer in the doctrine that "the immunizer is the physician of the future." I am, Sir, yours faithfully,

M. S. HARFORD.

Mile End, E., April 15th, 1910.

EXERCISE IN EDUCATION AND MEDICINE.

To the Editor of THE LANCET.

SIR,—In your review of Dr. Tait McKenzie's book on this subject you take exception to his explanation of "second wind," and, in my opinion, quite properly, criticise his theory. You go on to say that "second wind" is a "cardiac phenomenon." Now, Sir, while I allow that the heart is nervously excited in sympathy with any unusual muscular exertion, yet I hold that the primary cause of the sense of discomfort lies rather in interference with the circulation in the lung, and this in its turn is brought about by *want of attention* to the working of the breathing apparatus. The mind is set upon the action of the limbs and neglects, unconsciously, that of the respiratory muscles, above all, the most important, that of the diaphragm. By-and-bye the machine "finds itself." Each set of muscles does its own work and "second wind" is established.

As far as the extraordinary muscles connected with breathing are concerned, a very little consideration will show that for their free working certain fixed points are required, while in relation to movements of the limbs the converse is equally true. In this way it is plain that there is necessarily opposition between them and each has to learn how to get on without hurting its neighbour. I have made the experiment on my own person and have found if I consciously bring the extraordinary muscles into action by taking

a series of deep breaths when starting to run I can stave off, in great measure, the feelings of oppression in my chest as I go faster and faster.

The whole question is interesting physiologically, which is my excuse for troubling you with these hasty, and, I fear, crude, opinions.—I am, Sir, yours faithfully,

April 18th, 1910. WILLIAM BRUCE.

THE MILK-SUPPLY AND SOME SUGGESTIONS FOR PROCURING PURER MILK.

To the Editor of THE LANCET.

SIR,—The question of the milk-supply is a subject of ever-increasing importance. The findings of the Royal Commission on Tuberculosis with reference to the propagation and maintenance of tubercle, by means of milk, have been accepted by everyone of any importance. The only individuals who would dream of offering any objections to the Commission's opinion are to be found amongst "interested" persons—viz., amongst milk-sellers—a class of people whose ignorance of the subject is colossal, and whose only ground for objection is their pocket.

In small towns and villages, where there are cows suffering from tuberculosis of the udder, though the danger of the spread of tuberculosis by means of cows' milk is great, the danger is very much enhanced in large towns, and especially in large manufacturing towns where the disease is very prevalent and where the specific microbe may be blown about by means of dust. In the large towns of the North of England milk is usually sold out of a huge "kit" or can. Into the can the milk-seller dives his or her arm and ladles out the milk. The measures are allowed to lie anywhere on the milk cart or they may be placed in an uncovered box when not in use. What precautions are taken to prevent pollution of the milk? Absolutely none. In wet weather the impure rain, laden with micro-organisms of various kinds, some pathogenic, others not, and contaminated with gaseous, particulate, and other impurities of the atmosphere, is bound to find its way into the milk when the lid of the can is removed, and into the measures to be carried into and mixed with the milk when the next customer is served. In dry, windy weather, dust, containing particles of horse manure and it may be particles of dried human fæces and other débris, is inevitably blown into the measures by means of which they will be conveyed to the milk. Again, there is, almost without exception, the extremely filthy condition of the clothing of the milk-sellers—some of the clothes look as if they came out of the Ark—and the very dirty state, very often, of their hands and finger-nails. I have often felt constrained to greet some of those milk-sellers with "Good morning, why have you *not* used ——'s soap?" So far as the clothing is concerned, it does not require a close scrutiny to detect the mud and manure on it. To my mind, it is an utter impossibility that anyone in the condition indicated can distribute milk without not only great risk, but actual certainty of contaminating the milk. Assuming that no pathogenic organisms are thus added to the milk, the keeping properties of the milk are bound to be deleteriously affected.

So far as legislation is concerned, the local authorities and medical officers of health have no control over the milk-supply to prevent the gross carelessness, negligence, and filthiness indicated above. No doubt the day will yet come, and may it come soon, when we will have a milk-supply above suspicion; but until that day dawns I think the medical officer of health could do a lot, with the consent of his authority, to minimise the dangers arising from the present method of milk distribution. "More evil is wrought by want of thought than by want of heart," and no doubt the present state of affairs is allowed to exist, not because of any wanton desire on the part of the milk-dealers to make their customers run any unnecessary risks, but simply in consequence of the fact that the subject has never been given a moment's thought, and because the people responsible do not realise the dangers present.

What measures could be taken to obviate, or at all events to minimise, the contamination of milk between the time of its leaving the cow and reaching the consumer? Some plans are feasible, others are not practical at the present moment, though in years to come, when the country is ripe for the change, it may come in the natural course of progress. The introduction of a municipal sterilised milk-supply would be an eminently satisfactory solution of the difficulty. Wherever this has been tried it has been found that the concern was a financial loss to the community. To make this business pay, the price of milk would have to be raised to such an extent that the poorer classes of the population could not afford this necessity of life. The strenuous opposition of the wholesale and retail milk-sellers would have to be overcome, and altogether we may consider this method as being outside the pale of practicability.

I would venture to throw out one or two suggestions for the consideration of medical officers of health.

1. The milk-carts could be covered and have glass panels in the upper part of the sides. This very simple plan would mean an infinitesimal outlay, but not only would it protect the milk in the large cans and the measures, but it would conduce largely to the comfort and protection of the milk-seller during inclement weather. The milk-vendor could also have a pair of white linen or calico sleeves, tight-fitting at the wrists, and so prevent the accidental contamination of the milk when it was being served out. I notice most ice-cream dealers adopt this means, and surely our milk-supply is of as much importance as the ice-cream supply!

2. Another method would be to have a tap fitted on to the lower part of the can, so that the milk could be run into the measures. The measures should be kept in a covered box to protect them as much as possible from the elements.

3. A third method would be to carry the milk in barrels, with taps attached, as is done in some parts of Scotland.

4. Each customer could provide himself with a small can, with the owner's name and address engraved on it. The usual daily supply of milk could be measured into the individual cans at the farm or dairy and delivered to the customer in the can. By such a proceeding no further handling of the milk would be necessary after it leaves the farm or dairy until it reaches the consumer. This, I admit, would seem to give a lot of extra work to the dairyman, but not so much as at first sight appears. The measuring of the milk at the farm might mean that a little time would be lost in starting, but it would be saved in the course of the round, for the milk would not then have to be measured. The washing of the small milk cans by the farmer is the only objection the farmer could raise, and as that would not take up much time it is of very little importance compared with the benefits and the sense of greater security his customers would derive. If this plan were adopted the dairyman could carry in a larger can the average amount of milk required as "extra" by his customers, and only this would have to be handled again before reaching the consumer.

Objections may be raised to methods 2 and 3. There is a popular idea that the milk taken first from the top of the can contains most cream, and therefore the milk coming off first, when run through a tap as suggested, would not be so rich in cream as the milk drawn later. This is a plea often brought forward by the dairyman in a milk prosecution, where the sample happens to have been taken from the can when it was nearly empty. Various authorities have satisfied themselves that there is little, if any, difference in the percentage of cream in milk taken from the top or from the bottom of the can. Even granting that there is the difference in the quality claimed—which I certainly do not admit—the position remains the same as before, with this difference, that the people who get their milk last would get the richer milk, whereas under the present arrangements those getting it first receive the benefit. At the worst it would be a case of robbing Peter to pay Paul. Besides, the measures usually, if not always, are possessed of long handles, and part of the handles, as well as the measures, are dipped well under the surface of the milk. That being so, practically speaking, no one gets the milk from the top. Again, the cream will rise only if the milk is allowed to stand at rest for some time. The movement and jolting of the milk-cart renders quiescence of the milk in the cans an utter impossibility. There is always a certain amount of "churning" of the milk going on while the vendor is going his rounds, and this will ensure a thorough mixing of the milk and prevent the cream rising to the top. It might be objected that the sediment in

the milk would all come away when milk was drawn off for the first few customers. Similar arguments apply to this objection as were used in the case of the cream. The constant movement of the milk would prevent sediment to any extent taking place. Further, the tap would have to be fixed at least an inch from the bottom of the can, and any sediment that did happen to be present would have no more chance of being unfairly distributed amongst the various customers than it has at present. Education of the general public would, I am convinced, soon overcome their objections. When they found that their milk contained as much cream and as little (if not less) deposit as formerly, they would appreciate that while they were not losing anything they were gaining by getting a purer milk.

Suggestion No. 4 might be criticised on the ground that the washing of the milk cans, as already done by the farmer, is apt to be perfunctory, and that any increase in the number of cans to be washed is to be deprecated. This is an objection which, I think, can be readily and satisfactorily dealt with. If the cans were not properly and thoroughly cleaned every day, the milk put into them would soon sour. Complaints would then be made by customers to the milkman, and in his own interests he would very soon see that due care and attention were paid to this important part of his work. Irrespectively of this, the local authority, under the Dairies, Cowsheds, and Milkshops Orders, has power to make and enforce regulations for, amongst other things, securing the cleanliness of milk vessels. This being the case, efficient inspection of the dairies would ensure due attention to the cleanliness of the milk cans.

I do not claim that any of the methods suggested would give a supply of sterile milk, but it would diminish the risks of contamination and enable us to get a milk which would keep longer than the milk as at present supplied keeps. Farmers, on the whole, are a reasonable body of men, and I feel sure that if their attention was drawn to the risks associated with their present methods, and some suggestions or recommendations, on the lines indicated, were drawn up by medical officers of health on behalf of their sanitary authorities, there would be a general acquiescence on the part of the farmers with these recommendations.

I am, Sir, yours faithfully,

Blackburn. D. FENTON, M.B., Ch.B. Edin. D.P.H.

STERILISATION OF THE SKIN BY THE USE OF AN ALCOHOLIC SOLUTION OF IODINE.

To the Editor of THE LANCET.

SIR,—I was deeply interested in the paper by Mr. Waterhouse and Mr. Fenwick which appeared in THE LANCET of April 16th, because I have for several months employed the iodine method in *all* my operations and accidents. In the latter I have found it particularly useful, because most of the patients come with a dirty skin, and yet healing by first intention is the rule. A woodcutter came to me with a very extensive injury to his right hand produced by a circular saw, which had stripped up all the tissues of the palm of the hand, necessitating the insertion of 20 metal clips; the whole length of the cut healed by first intention. Mr. Waterhouse's note about the usual preliminary dressing is very true, and only those who have been through the process can appreciate the awful discomfort of having the skin of the abdomen thoroughly scrubbed by a nurse, then shaved (also by a nurse), and finally a wet biniodide dressing applied, covered with guttapercha tissue, and left for the long weary hours of the night before an operation. To me it was as though a million ants were crawling over the skin of my abdomen, and sleep was impossible until at 3 A.M. I got out of bed and walked round the room until the skin was thoroughly chilled, then relief came, followed by sleep. I began by using a mixture composed of two parts of lin. iod. with six parts of the tincture. This, however, produced in some patients a definite peeling of the epidermis about the seventh or eighth day, though none of them complained of any pain when it was applied. Now I am employing a solution of iodine in chloroform 15 grs. to the ounce. This has the merit of drying very quickly and not producing any dermatitis. That this method is efficacious is proved by the fact that I performed hysterectomy on a patient without shaving the pubic hairs, the extensive incision necessary healing without the slightest moisture round any of the sutures. I also operated on a patient aged 89 years, who was suffering from senile gangrene of his big toe and also from incontinence of urine, for strangulated hernia. The operation was performed two hours after I was called in to see the patient, perfect union resulting. Lastly, a patient with large pelvic cysts which required drainage was prepared by this method, and the sutures remained perfectly dry until they were removed, a very severe test. So satisfied am I of the advantages of this method of preparation that I shall never return to the old cumbersome one of a wet compress.

I am, Sir, yours faithfully,

Lincoln, April 18th, 1910. STANLEY GREEN.

AMATEUR PRINTING.

To the Editor of THE LANCET.

SIR,—Doctors are so often likely to find a field for usefulness of one kind or another in a printing press that I am surprised that more of the faculty do not take up printing, not merely as a most delightful hobby, but as a means to professional ends. The "Amateur Printers' Association" was founded by a medical man in 1895 (Dr. T. Maxwell of Woolwich) in order to popularise the craft. If any of your readers would care to have particulars of that asscciation I shall be glad to correspond with them (if only they will be good enough to enclose a stamped and addressed envelope for a reply).—I am, Sir, yours faithfully,

E. H. BLAKENEY, M.A.,
Honorary Secretary, Amateur Printers' Association.

Ely, Cambs, April 19th, 1910.

THE LATE DR. SAVILL.

To the Editor of THE LANCET.

SIR,—In view of the valuable work which has been done by the late Dr. Savill in connexion with nervous diseases, a scheme has been inaugurated, in furtherance of a wish frequently expressed by him during his life, to found a scholarship at the West End Hospital for Diseases of the Nervous System.

A considerable sum has already been received, and any further donations from professional friends and others will be gratefully accepted. Contributions should be sent addressed to Savill Memorial Fund, London County and Westminster Bank, 1, Connaught-street, Hyde Park, W.

We are, Sir, yours faithfully,

HARRY CAMPBELL
J. HENRY CHALDECOTT
GEORGE DAVIS
} Hon. Trustees to the fund.

April 19th, 1910.

THE PETROL REBATE.

To the Editor of THE LANCET.

SIR,—I should be glad to learn if any of my medical motoring brethren have applied for and obtained the rebate on the petrol tax for the period ending Dec. 31st last or for the three months since then. Personally, I have applied to the local Excise officer for the printed form which is said to have been issued, but I am met with the reply that nothing has been heard of it.—I am, Sir, yours faithfully,

April 18th, 1910. R. S. T.

*** The Finance Bill in its present form leaves untouched the abatement in this respect.—ED. L.

THE RECENT EPIDEMIC OF TYPHOID FEVER IN MONTREAL.

(FROM A CORRESPONDENT.)

NO official accounts of the epidemic of typhoid fever which commenced in Montreal and its suburbs in September of last year, and which virtually came to an end with January of this year, have been published. Nor is it likely that any correct figures showing the extent of the outbreak or the mortality-rate will be available, as owing to a variety of reasons a very large number of cases were not reported. Dr. J. E. Laberge, medical officer of health of the city of Montreal, recently read a paper on the organisation of the health department, in which he deplored the laxity of

medical practitioners in failing to report cases of different infectious and contagious diseases. He stated confidently that less than half of the infectious and contagious diseases occurring in the city were reported to the Health Department, and alluded to the fact that in one district alone in the period from Oct. 15th to Jan. 1st last the officers of the Health Department had discovered 625 cases of typhoid fever, of which only 35 had been reported. Not only in the epidemic of typhoid fever just passed, but in former outbreaks of the disease, it has been very difficult to estimate the number of typhoid cases in Montreal and its suburbs, because the law in regard to the reporting of typhoid patients has been practically ignored by medical men, and the provincial and local boards of health have acquiesced in their disregard.

The report of the Health Department on typhoid fever for the year 1909 gives the number of cases reported in the city itself and districts under its jurisdiction as 1892. In September there were reported 66 cases, in October 279 cases, in November 213 cases, and in December 704 cases. Figures obtained from the Health Department denoting the number of cases reported from Jan. 3rd to 15th are 339. Consequently the number of cases officially reported from Sept. 1st, the commencement of the epidemic, to Jan. 15th is 1601. Although the epidemic began to wane in the middle of January, and after that time died out somewhat suddenly, there was a large number of cases both reported and unreported from that time up to the middle of February, when the disease as an epidemic was to all intents and purposes over. From the middle of January to the end of the epidemic there were probably at least 200 more cases reported, which would bring up the total of reported cases to 1800. As it seems to be universally allowed that there were quite as many cases unreported as reported, a moderate estimate of the number of cases which occurred in the course of the epidemic will be 3600. The disease was most prevalent in the outskirts of Montreal. For instance, in December, in 17 wards of what may be termed Montreal proper there were 231 cases reported, while in five suburban wards there were reported in the same period 467 cases. From Jan. 3rd to 15th in Montreal there were reported 117 cases, while in six suburban wards 222 cases were reported. If population be considered, then the ratio of cases occurring in the suburbs to those in the city was nearly 4 to 1.

The difficulties in the way of arriving at an accurate presentation of the mortality-rate of the whole epidemic are insurmountable. The deaths from typhoid fever in Montreal for 1909 were, according to figures procured from the Health Department, 212. Taking the number of cases reported for 1909 as 1892, this will give a death-rate of more than 11 per cent. But if the number of reported cases be doubled, as it is believed that they should be, the death-rate will be brought down to under 6 per cent., which is by far the more likely figure. The Health Department in the statistics as to typhoid fever given from Jan. 3rd to 15th supply the number of cases and deaths. The cases reported were 339 and the deaths 41, a death-rate of between 11 and 12 per cent. The hospitals of Montreal, however, in January published the following tables. The figures cover the period from Sept. 1st to Dec. 31st:—

Hospital.	Total cases admitted.	Deaths.
General	147	9
Royal Victoria	237	9
Western	74	6
Homœopathic	80	3
Notre Dame	114	15
Hôtel Dieu	134	8
	786	50

This gives a death-rate of between 6 and 7 per cent.

In the first week of the epidemic the type of the disease was mild, but at the end of October it became far more virulent. In the Emergency Hospital, which was opened in the early part of January, 112 cases of typhoid fever were treated with 7 deaths, 2 deaths from perforation, and 1 recovery from the same, giving a death-rate of 6·25 per cent. The high death-rate at Notre Dame Hospital is attributed partly to the fact that at that institution several cases were taken in which were almost hopeless from the first.

Outbreaks of typhoid fever occur with comparative frequency in Montreal and its suburbs, a winter never passing in which there are not a very considerable number of cases of the disease. As in former outbreaks of typhoid in Montreal, there have been in the one just over numerous cases of paratyphoid and of intestinal disturbances with high fever which have led some at first to deny the existence of typhoid fever on a large scale. The lax methods in vogue in Montreal as to reporting cases of infectious and contagious disease tend to retard remedial measures.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Aberdeen University General Council: The New Medical Ordinance.

THE half-yearly meeting of the General Council of the University of Aberdeen was held on April 16th in the Mitchell Hall, Marischal College, Principal George Adam Smith presiding. At a meeting of the business committee on March 30th a subcommittee, consisting of Colonel W. Johnston, C.B., Professor John G. McKendrick, Dr. Ashley W. Mackintosh (members of the business committee), and Dr. G. M. Edmond, Dr. H. W. M. Gray, and Dr. J. Scott Riddell (members of the council, with Professor McKendrick as convener), was appointed to consider the new medical ordinance and report upon it. Dr. McKendrick submitted the report of this subcommittee. Several interesting points are dealt with in this report:—

1. *Degrees.*—The committee are of opinion that diplomas in special branches of medical and surgical practice should be conferred only on those who are graduates in medicine of the University of Aberdeen, or of any other university in the United Kingdom.

2. *Professional education (inter alia).*—(1) The committee note with satisfaction that in the case of anatomy, physiology, and pathology the distinction that has long existed between systematic and practical teaching has, in a sense, disappeared, the professor in each of these subjects having allotted to him not so much time for systematic lectures and so much for practical teaching, but so many terms to be used for the teaching of his subject at his discretion, subject, of course, to the approval of the Senatus, on the information sent to them by the boards of studies. (2) The committee recommend that "biology" should be struck out of Subsection 4 as a proposed optional substitution for "botany and zoology." (3) The committee suggest that the phrase "conduct" 20 cases of labour, although that used by the General Medical Council, is misleading and inept, and that the word "attend" is more suitable. (4) The committee also suggest that Subsection 9 relating to practical pharmacy might with advantage be omitted, and that there be substituted for it a course of such practical instruction in pharmacy during one term by the professor of materia medica and therapeutics as he may deem expedient. In these days it has become less and less necessary for a medical man in practice to be a practical pharmacist, capable of making pills, powders, and potions. These can be supplied to him in better form by highly educated chemists and druggists, and, even if he should be obliged to supply in country districts the medicine he prescribes to his patients, he can obtain these wholesale from chemists who devote themselves to this branch of trade. The time allotted in the new ordinance to practical pharmacy may, in a heavily loaded curriculum, be more profitably employed. (5) The committee point out the omission of operative surgery from the list of extra courses, and recommend that a course of one term should be devoted to it, as it has been found to be a most valuable part of surgical training.

5. *Professional examinations.*—The subcommittee draw attention to the following important powers conferred on the Senatus with approval of the University Court. They can determine (1) the interval of time that shall elapse between the time when a candidate passes the examinations in the subjects of one division and the time of his admission to examination in the subjects of a subsequent division; (2) that if a candidate fails to pass in one or more of the subjects of one division he may be prevented from attending the classes in the subjects of the subsequent division; (3) that, under prescribed conditions, a candidate may pass the examinations in the subjects of any division singly or together; and (4) that the examinations in the subjects of any division shall be taken in a prescribed order.

These arrangements will prevent students who fail in an examination from going on to other classes while they are still preparing for another examination in the subject or subjects in which they failed. Many students are severely handicapped by endeavouring to attend classes while they are preparing for an examination in subjects on which they should have passed before entering on new courses of study. The committee are of opinion that no student should pass on to the study of another group of subjects until he has passed examinations on the group immediately previous. After a reference to the times at which the various examinations may be passed, the subcommittee remark that it will thus be seen that students may, and, indeed, are expected to, pass on ten important and extensive subjects by the close of the third year of medical study. It may be questioned whether this will not prove beyond the capacity of the average student. Other two years are allowed for the final subjects. The subcommittee fear that

with such a constant stream of examinations the student would have little time to pay attention to work at hospitals, where even in his earlier years he is expected to learn the elements of clinical practice. It seems to the committee next to impossible that students can attend all these classes and pass all these examinations in the time contemplated, while on the other hand, if they do, they cannot be expected to pay sufficient attention to clinical study. The result will be that clinical study, along with attendance on the all important subjects of medicine, surgery, and midwifery, will be crushed into the final three terms, or the so-called fifth year. All clinical teachers will agree that this is far from being satisfactory—indeed, an impossible position. The committee suggest two alternatives: (*a*) that if students are to be subjected to the constant harassment of so many examinations, two terms at least should be added to the period of medical study; or (*b*) that botany, zoology, physics, and chemistry be removed from the medical curriculum, which would then begin with the subjects of anatomy and physiology. Were the latter alternative adopted there must be a preliminary scientific examination to be passed before the student begins the study of medicine, and such preliminary examination in science would be quite independent of the present preliminary examination in general knowledge. The committee favour the latter alternative.

6. *Professional examinations for degrees of M.D. and Ch.M.*—The committee do not agree with the proviso in which it is stated that under certain conditions candidates for the degrees of M.D. or Ch.M. may be exempted from the whole or part of the examination. They consider that in all cases the examinations should be thorough.

Dr. Mackintosh went over the ordinance in detail and moved that, subject to the alterations adopted by the council, the report be adopted and the recommendations sent to the University Court. Dr. W. Bruce of Dingwall seconded, and the motion was unanimously adopted.

Perthshire School Medical Inspectorship.

The Subcommittee on Secondary Education for the County of Perth has appointed as medical inspector of school children Lieutenant-Colonel Grenville E. Moffet, R.A.M.C. (retired). Colonel Moffet during his curriculum at Aberdeen held the appointment of assistant to the professors of practice of medicine and of midwifery and diseases of women and children. He also acted as senior clinical clerk to the former at the Royal Infirmary, and attended practice at the Children's Hospital under the latter. Before entering the army he acquired experience in general practice by acting as assistant and locum tenens to several men in Scotland and England. In 1893, as a surgeon-captain, he was selected by the then Director-General of the Army Medical Service for the appointment of recruiting medical officer at Glasgow, and after promotion to his present rank he voluntarily retired from the service in 1905. Since then he has been employed as medical officer in charge of the troops in the military hospital at Perth.

April 19th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Irish Medical Association.

THE Council of the Irish Medical Association has adopted the report of its special committee on Poor-law reform, and the secretary has sent a copy of it to each of the members in order to take a *plébiscite* vote. In this report the establishment of a national medical service in Ireland to replace the present workhouse, county infirmary, and dispensary system, as suggested in the report of the Vice-Regal Commission, is recommended. This service would be a national medical service, entered by competitive examination, with graded salaries paid out of the Consolidated Fund and with pensions, the officers being under a board of control, which would administer the scheme. By this plan whole-time officers, wherever possible, would be appointed, and whole-time county medical officers of health with special diplomas in public health and with analytical and bacteriological experience, while only members of this national service would be eligible for appointment as medical inspectors. The authorities of the Irish Medical Association object to making the county into the unit of administration by replacing the boards of guardians, as the possibilities of promotion would be limited to each county, and the aggregate potential advantage to the members of the service would be less than if the whole service—county, Poor-law and dispensary, and public health—were coördinated as they would be in the national scheme. They point out that the recommendations might have many points of advantage in amending English Poor-law which would be unsuitable from an Irish standpoint, as the conditions in the two countries are so dissimilar. The difficulty is, and this is contained in the "Report on Ireland" by the Royal Commission on the Poor-laws, "that so long as the local rates bear the greater part of the cost of the medical service, as at present, it would be difficult to carry through Parliament a proposal depriving local authorities of any voice in the selection of their medical men;" and, further, that the Irish local authorities would "no doubt desire to retain in their hands the appointment of their medical officers" (p. 61 of Report). Again, the Royal Commissioners say (p. 62): "The Vice-Regal Commission's alternative of a service wholly charged on State funds, therefore, seems to us to be the only practicable solution of this problem, if the service is to be free from local control; but it is clear that a very strong case would have to be made out to prove the necessity for throwing this portion of the Poor-law service in Ireland wholly upon the Exchequer." The Irish Committee of the British Medical Association is also taking a *plébiscite* of the dispensary and workhouse medical officers, asking them to indicate which of these schemes (the National Medical Service as recommended by the Vice-Regal Commission, the County Medical Service as suggested by the Royal Commission on the Poor-laws, or the present system with the addition of compulsory superannuation on retirement) they prefer. When these two *plébiscites* are taken we shall be in a better position to know the mind of the medical profession in Ireland. That a national medical service would be the best solution for the medical men and also for the country is a widely held view. Such a service would command better payment and so would probably attract abler men and lead to progress in public health, which is so far behind in Ireland. But this scheme will probably be opposed by the Treasury on the ground of increased cost, and by the local authorities, who will not like to give up their present patronage.

The Queen's University of Belfast: Meeting of Convocation.

The first meeting of Convocation of the Queen's University was held on Saturday last, April 16th, Lord Shaftesbury, the Chancellor, presiding. The Examination Hall of the University, in which the members assembled, was packed to the doors. The Right Hon. Thomas Sinclair was elected chairman of Convocation, and Dr. John Campbell vice-chairman. A committee of 15 having been appointed to draw up standing orders and regulations, the chairman of convocation proposed a series of motions expressing an earnest desire for the prosperity and usefulness of the University, apart from individual views as to the merits of the general scheme of higher education in Ireland, of which it is a part. The motions also condemned any departure from the non-sectarian principles and traditions of Queen's College, Belfast, which, it was alleged, were violated by the establishment within the University of separate lectureships for the teaching of scholastic philosophy. Dr. Benjamin Moore, late dean of the Medical Faculty of the University of Liverpool and professor of bio-chemistry in Liverpool, seconded the motions. An amendment leaving out all the condemnatory portions was proposed by Rev. J. B. Armour and seconded by Professor R. B. Henry. A lively debate took place, and on a division the motions were carried by 238 to 56 votes. Dr. Moore then moved:—

That Convocation of the University desires to urge upon the Senate the need for greater development of post-graduate teaching and research and for adapting the University to the requirements of the city and district in which it is situated, for which purpose Convocation would welcome the endowment of research on a more liberal basis and free from teaching of an under-graduate type.

Mr. J. R. Fisher seconded the motion, which was carried. A notice of motion was given in by Dr. R. W. Leslie, but, at the request of the Chancellor, was held over until a future meeting of Convocation:—

That we, Convocation of the Queen's University of Belfast, emphatically protest against the prohibition imposed on the University by the Statutes against the conferring of honorary degrees in the Faculty of Medicine.

At a subsequent meeting of the Senate Sir William Whitla

was appointed representative of the University on the General Medical Council for a term of three years.

The Beri-Beri Outbreak.

Another member of the crew of the vessel *Sterling*, on which an outbreak of beri-beri took place on a voyage from Rangoon to Belfast, has died at the Belfast Union Hospital on April 17th. This is the second death amongst the crew of the ship, and there are still three ill of the malady in the Union Hospital.

The late Mr. J. G. Jefferson.

The death occurred on April 16th at his residence, Lisburn, of Mr. J. G. Jefferson, medical officer of health of Lisburn, consulting sanitary officer to the urban council, medical officer of the Lisburn dispensary district and medical attendant to the police. He was a most conscientious public officer and greatly esteemed by numerous professional and private friends. He leaves a widow and small family for whom the utmost sympathy is felt.

April 19th.

WALES.

(FROM OUR OWN CORRESPONDENTS.)

Cardiff Port Sanitary Authority.

THE number of vessels entering the Port of Cardiff in 1909 was 11,246, compared with 12,564 in 1899. In spite of this decrease the requirements of the present day necessitate a much larger staff in the department of the medical officer of health than was the case 10 years ago, when one inspector and two assistant inspectors were deemed to be sufficient. In addition to an assistant medical officer of health there are now nine inspectors, one of whom is employed entirely in the inspection of foods. During 1909 a large quantity of unsound food was destroyed under the Unsound Food and Foreign Meat Regulations of the Local Government Board. In no single instance was it necessary to resort to legal proceedings. The total weight of the condemned foodstuffs was 1396 tons, and this included a single consignment of 1226 tons of wheat. Very little meat was destroyed under the regulations, the majority of the articles dealt with being wheat, fruit, and potatoes. In his annual report the medical officer of health (Dr. E. Walford) states that systematic inspections were made during 1909 of 8477 ships, and 933 were found to be defective. In 1899, out of 7170 ships inspected 1597 were found defective. It is satisfactory to find that the British ships were in a better condition in 1909 than the foreign. In the former defects were found in 7 per cent. compared with 23 per cent. in the latter. The bacteriological examination of samples of drinking water from vessels entering the Port of Cardiff, which has now been made for some years, was continued during 1909 at the Cardiff and County Public Health Laboratory by Dr. H. A. Schölberg, who reported upon 63 samples. In 19 instances the water was found to be good and in 27 to be distinctly contaminated.

A Poor-law Sanatorium for Merthyr.

The board of guardians of the Merthyr union has been congratulated more than once by the Poor-law inspectors of the Local Government Board upon the admirable manner in which the Poor-law institutions in the district are administered. The arrangements for the treatment of the sick have received special commendation. The Earl of Plymouth having offered the freehold of a site it is now proposed to erect a sanatorium for consumptives who are chargeable to the union. The accommodation suggested is for 50 patients —30 men and 20 women and children. There is to be a central administrative building of two storeys containing five bedrooms, and on either side a one-storey building. The central block will be constructed of stone and the remaining portion of the building of corrugated iron with a tiled roof.

Fees to Medical Practitioners under the Midwives Act.

The Hay board of guardians has decided to pay a fee of £2 to medical practitioners who are called in by a midwife under Rule 18 of the Central Midwives Board. At the meeting of the board at which this decision was arrived at the members of the board seemed to be singularly ignorant of the circumstances under which this fee might have to be paid. One member suggested that a maximum fee should be offered and that it should be left to the medical man's honour to accept a smaller sum in the event of the case being a light one, while another member suggested that the cases in which a medical man would be called in would not occur very often as midwives were now required to be qualified and would only call in a medical man when absolutely necessary. No one seemed to be aware that the conditions under which medical help must be sent for are very precisely defined by the Central Midwives Board, and that those conditions are all such as would involve anxious and very frequently tedious attendance. There is no question, therefore, as was suggested by one member, of taking the heavy work with the light, for there will be no light work.

April 19th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Congress of Medical Practitioners.

THE Congress of Medical Practitioners, a brief note of which was given by our Paris Correspondent in our issue of April 16th, was held at Paris from April 7th to 9th. This was the third Congress of the kind. The first was held at Paris in 1907 and gave rise to some very lively discussions. Many professors of the faculty attended and engaged in hot warfare with those members who attacked the official methods of medical teaching. The Congress resulted in the appointment of a permanent committee on which was laid the duty of studying in a more thorough manner the many very complex questions which had been inserted in the programme of the Congress. The second Congress was held at Lille and was of a more exclusively professional character. The provincial professional element prevailed and the main discussions were of a financial nature, dealing with insurance societies and benefit clubs which are in the habit of exploiting medical men. The Congress which has just concluded returned to problems of a more general and somewhat higher kind. The labours of the permanent committee have resulted in the publication of two volumes of reports containing the results of various inquiries and many tables of much interest. The following are the principal points and the resolutions which the Congress passed concerning them.

One interesting inquiry dealt with the question of the right of insured workmen and affiliated members of benefit societies to choose their own medical man when they were ill. It is well known that insurance societies and benefit societies put forward a claim to make their members be attended by a medical man appointed by the society, to whom they give a definite fixed salary. Such a medical man was prone to reduce the indemnity payable, for if he did not the society might see that he was replaced by another medical man. The syndicates of medical men undertook a very active campaign for the maintenance of the right of free choice. To this the benefit societies retorted that when free choice was allowed certain venal medical men, with a view to keeping in with the patient, used to exaggerate the gravity of his illness, the length of sick leave necessary, and the amount of the damages. Finally, the question of free choice became merged in a general war against the pretensions of the benefit societies as a whole.

The Congress having listened to an admirable report laid before it by Dr. Boillet of Lyons, adopted all its conclusions, of which the following are the most noteworthy :—

1. That the benefit societies be asked to raise the amount of their subscription, which as a rule is 5 francs, and is obviously too small to allow them to give proper remuneration to the medical man, whether he be appointed by themselves or not.

2. The Congress further demand that the law of 1898 as to benefit societies should be modified in such sort that qualification as a benefit society, and the legal advantages which such societies enjoy, should not be granted to any society which did not demand a sufficiently large subscription, which did not give equal advantages to all their members, and which did not guarantee the right of free choice, but that nevertheless a maximum fee should be agreed upon for each case.

This solution is obviously of the nature of a compromise.

Dr. Bresselle of Vésinet presented a report upon the raising of medical fees throughout France. The report showed how the returns from professional work are diminishing among all classes and in all districts. The causes of this are the exaggerated development of gratuitous advice, of various philanthropic agencies, of public lectures on medicine and hygiene, and of advertisements in the lay press of

remedies which their readers can take for themselves, to say nothing of the old grievance, of advice given by nearly every pharmaceutical chemist under the plea of urgency. The Congress decided that a committee should be appointed to draw up an appeal to the public, for insertion in the press, which should make them acquainted with, and admit the necessity for raising medical fees, a course which from certain signs would not appear to meet with any grave difficulty.

A very important paper was read by Dr. Levassort of Paris on illegal medical practice, especially as regards cases in which medical men were replaced by medical students. Dr. Lafontaine of Paris discussed the question of medical education. He wished the essential machinery of education to be in the hands of the medical syndicates, and demanded that theoretical instruction alone should be in the hands of the faculty, while the technical and practical teaching should be given in the hospitals, every pupil being at liberty to choose his own master. The office of agrégé of the faculty should be done away with, and a reform committee should be appointed, the members of which should be chosen in equal numbers from the representatives of official teaching and delegates chosen by practitioners. Dr. Le Fur wished a superior medical council organised on a similar plan to be appointed. M. Tourtourat proposed to limit the number of medical students by not allowing more students to enter each year than just sufficient to fill the vacancies really existing in the *corps médical*. M. Delpeut asked that admission to the Faculty should not be granted except by open competition. These last two propositions were referred to the watching committee for further consideration.

Dr. Léon Archambault presented a lengthy report upon the administration of hospitals at home and abroad. Among the reforms he suggested were that the direction of a hospital should always be in the hands of a medical man, assisted by an administrative colleague; that the medical officers of a hospital should form a committee to guarantee the whole direction of the institution; and that the assistant medical officers should give their whole time to the service of the patients and should live in the hospital without being allowed to take private practice. Finally, a hospital should be a real centre for the instruction of both medical men and medical students. M. Louis Regis spoke on the necessity for confining hospital benefits to the really needy, and discussed the means whereby this regulation might be carried out. M. Declercq of Lille read a careful study of the application of the law of 1902, which deals with public health. The burning question was the notification of infectious diseases, which the law says is obligatory and which brings in its train disinfection at the public expense. Medical men in general protested against this, and the whole Academy of Medicine in particular, regarding the law as a violation of professional secrecy, and one which brought them into bad odour with the family of the patient, to whom the proceedings of the municipal disinfecting staff were by no means always agreeable. It was demanded that the obligation to notify should rest with the head of the family, who should also be liable to any penalty provided for omission of this duty. M. Declercq proposed a somewhat ingenious solution of the difficulty—namely, that the head of the family should notify to the mairie, or the health department of his district, by sending in a certificate which the medical man should give him. The counterfoil of this certificate could be put in evidence to prove that it had been given to the head of the family in case he did not perform his part.

A long discussion took place as to the means for checking the very regrettable practice of procuring abortion. French law is very severe on this practice, but it is rarely put in motion. A movement has recently been started in certain medical journals to secure that the penalties for procuring abortion, whether procured by a man or a woman, should be less severe, but should be mercilessly applied. At the same time, persons of a certain cast of mind, with a very false moral code, have argued that since abortion is generally practised in modern society in conformity with Malthusian principles, and since the main danger to the mother arises from its being brought about *sub rosâ* and under defective conditions, it would be better that medical men should be allowed to bring it about openly. The Congress naturally rose against this abominable theory, and agreed that abortion, unless brought on in conformity with strict medical indications, was an absolute crime. Various resolutions on the subject were passed, among which were the following:—

1. That the number of midwives should be limited.
2. That the calling of midwife should be under the supervision of some inspection authority.
3. That any miscarriage, whether natural or otherwise, should be obliged to be notified.

On the whole it may be said that the Third Congress of Medical Practitioners was a most interesting gathering, at which both the moral and material interests of the profession were discussed fully. It is much to be regretted that the professors of the faculty, the physicians to the hospitals, and in general more official medical men did not put in an appearance, so that the debates as a whole were entirely confined to medical men engaged in practice. Consequently certain risky views put forward met with no authoritative contradictory arguments. Perhaps the chief value of the Congress lies in the two volumes of reports above mentioned, which constitute a collection of documents worthy of consultation by the medical men of all countries.

The Red Cross Societies.

In France there are three distinct Red Cross Societies—the Union of Women of France, the Association of French Ladies, and the Society for the Aid of the Wounded in War. These three societies have almost identical objects, and their original intention was admirable—namely, the training of female nurses who, in time of war, should be capable of assisting the medical officers in giving first aid to the wounded. A great number of society women of all ages have joined these societies. For many years they adhered to their original programme, but they are now seeking to enlarge the field of their activity and they attend courses of instruction on a great variety of medical subjects, the instruction being arranged for their special benefit and given by medical men. They also present themselves at special examinations, and when successful in passing they receive diplomas. Many content themselves with taking this diploma, but, on the other hand, some imagine that the possession of it entitles them to practise medicine to a certain extent. They practise at first in dispensaries established for them, where they make punctures, apply cupping-glasses, give injections of serum, and make use of a variety of surgical dressings. This amount of medical practice, however, does not suffice, and the ladies, no longer content with the dispensaries, now work in certain special hospitals. Several medical societies have naturally taken note of these proceedings and have raised protests. Some medical men (mostly those who are conducting the courses of instruction) having attempted to defend these irregularities, the question came before the general council of the Paris medical societies *d'arrondissement*. Dr. Chancel, representing the thirteenth arrondissement and speaking on behalf of his professional brethren, complained of the serious harm which the Red Cross hospitals had done to them, one of these hospitals being in their arrondissement. In the name of 50 medical men of the Société des Gobelins he joined his protest to that which Dr. Gibrie had made at a meeting of the society of the seventh arrondissement. He said that the Red Cross organisation was now following a wrong course, for the three societies had established in their hospitals advanced classes in which very complete practical instruction in every part of minor surgery was given to a multitude of ladies. This was an abuse which increased every day. Some ladies were already beginning to visit patients at home, carrying morphine and serum for the use of those who could not leave the house. These clinics were freely open, not only to necessitous patients, but to all comers. Touting for patients was carried on by asking employers of labour to send their workpeople to these hospitals and dispensaries, and similar requests were made to school-mistresses in respect of their pupils. These proceedings had resulted in an extraordinary diminution of the practice of the medical men in the thirteenth arrondissement. Some months ago the presiding officers of the society of that arrondissement paid a visit to the Hôpital des Peupliers for the purpose of explaining to the surgeon of the hospital, Dr. Cazin, that the local practitioners suffered severely in consequence of the advice given *gratis* at that institution. A request was made that such advice should be reserved for necessitous persons and that patients belonging

to the working classes should not be admitted indiscriminately, and in particular that cases of accident or injury sustained during employment should not be admitted because they were not necessitous individuals, either the employer or an insurance company being responsible for the cost of their medical treatment. Count d'Haussonville was present at the interview but could not give any definite promise with respect to the points which had been raised.

April 19th.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

The Influence of the Sexual Glands on Bodily Development.

IN a paper read recently before the Gesellschaft der Aerzte in Vienna Professor Tandler explained the results of observations which he had made on a number of persons with a view of ascertaining the influence of the internal secretions of the sexual glands. He said that this influence was shown by direct changes in other organs, by changes in other glands possessing an internal secretion, and by changes of organs produced by secondary changes of complementary glands, an instance of the latter kind being the enlargement of the lips which sometimes occurs during pregnancy. The interstitial part of the sexual glands controlled the production of the internal secretion, which was morphologically influential. In cryptorchidism the testicle had only an interstitial part, but no generative part. A unilaterally cryptorchid horse became incapable of procreation if its healthy testicle was removed, but it nevertheless retained the characteristic aspect of a stallion. The influence of the testicle was manifested even in the embryo. Professor Tandler believed that the sex was determined *in ovo* and that the external sexual characteristics were developed under the influence of the internal secretion of the ovary or testicle. The mamma, formerly a conglomeration of sweat glands, was present in both sexes, but grew exceptionally in the female owing to the action of the ovary. The beard was formerly a character of species; it became a character of sex in the young male, but elderly females might also have a beard owing to atrophy of the ovary. When the sexual organs were hypoplastic or after castration the epiphyses remained open longer than in normally developed cases; hence the growth of the long bones. The local accumulation of fat was a secondary sexual characteristic in both sexes. In eunuchs the muscles contained fat. The hair, the nails, and the hypophysis were also under the influence of the sexual glands.

Removal of a Tumour of the Hypophysis by the Nasal Route.

Dr. Hirsch demonstrated quite recently in the same society his method of removing a tumour of the hypophysis through the nose, the patient being a woman, 35 years of age, who had suffered for seven years from continuous headache with loss of sight in both eyes. X ray examination showed a tumour of the hypophysis, and Dr. Hirsch resolved to remove it by a method which he had worked out about a year ago on the cadaver. The operation must be performed in four stages, the first of which consisted in the removal of the left middle turbinal under cocaine anæsthesia. A few days later the whole of the left ethmoidal labyrinth was removed in the same way, and after a further interval of a few days the anterior wall of the sphenoidal sinus was removed. In the above-mentioned patient all these three operations were performed within 14 days with a very small loss of blood and without pain. The operations were well known to all rhinologists. The ridge of the hypophysis, which reached low down into the sphenoidal sinus, was now well in sight, and after the administration of cocaine a special chisel was used with which the bone was carefully broken just below the hypophysis. Through the aperture a bent elevator was introduced, the bone gave way, and it could be removed piecemeal by means of bone forceps. The tumour of the hypophysis which then became visible was about half an inch long and a little less in breadth. Dr. Hirsch did not do anything more on this day, as he wished to see the effect of the decompression produced by this operation, but as after 10 days there was no improvement he again used cocaine (always in a solution of 20 per cent. strength), and by means of a fine knife the dura mater and the protruding tumour were incised. About two tablespoonfuls of a sanguinolent serous liquid thereupon gushed out, and a probe could be passed into a cavity. Part of the wall of the cavity was removed for examination, and then the nose was closed simply by means of a little sterilised cotton-wool. The entire operation was almost absolutely painless, and the effect was most gratifying. The headaches soon disappeared, and the visual power of the left eye was regained to the extent of $\frac{6}{9}$, but up to the present time (four weeks after the operation) there has been no recovery of vision in the other eye. The advantages of Dr. Hirsch's method over that of Schloffer were that general anæsthesia was unnecessary, and that the operation did not cause either pain, or loss of blood, or disfiguration of the face, or visible scars. Schloffer's method, on the other hand, required general anæsthesia for three-quarters of an hour, opening and temporary resection of the nose, enormous loss of blood, and permanent scarring of the face. The danger of meningitis was equal in both methods. In the discussion which followed this interesting demonstration Professor Chiari, Professor Eiselsberg, and Professor Hayek, who all have had large experience of the work involved in the new operation, did not raise any serious objections to it, although they were inclined to reserve their opinion as to its general advisability. The main argument against the method—namely, that it merely permitted a small resection of the hypophysis without giving a good view of the organ—could be easily done away with by improved instruments and increased experience.

Out-patients in the Vienna Hospitals and Dispensaries.

Dr. Hofmokl of the Vienna General Hospital has compiled an interesting statistical account of the out-patient departments of the hospitals and dispensaries of the city. He states that in 1908 no less than 650,000 persons were treated in the out-patient rooms of nine clinical wards, three private hospitals, and three children's hospitals. This is equal to 30 per cent. of the entire population of the city. During the same time 100,000 persons were admitted as in-patients. It is worthy of note that in the clinical departments there were only 350,000 out-patients, whilst in the remaining institutions there were 300,000, inclusive of 122,000 children up to the age of 14 years. The prevalence of hospital abuse is well illustrated by the fact that more than 500,000 of the patients belonged to sick clubs or other similar associations. The law now makes insurance against sickness compulsory for the majority of the working classes, and in order to save trouble the club medical officers very often advise their patients to make application to the hospitals. The patients get their sick pay and obtain treatment in the hospitals even as out-patients, for in our hospitals there is no supervision or inquiry as to the income or social position of the persons seeking advice and treatment, and various attempts which have been made to introduce a better system have proved futile. If it could be arranged that the hospitals should admit only necessitous persons the expenditure of these institutions would be reduced, while on the other hand the sick clubs would have to increase the number of their medical officers and to remunerate them better.

April 18th.

UNITED STATES OF AMERICA.

(FROM OUR OWN CORRESPONDENTS.)

Important Change in Medical Education.

THE University of Pennsylvania, whose medical school is the most ancient in this country, has just made a move of a most important character in regard to medical education, which is to come into force with the next academic year. While the strictly scientific and laboratory sides of medical education have progressed to a leading position in America, owing to the prompt realisation of the fact, by a people renowned for practicality, that the exacting nature of such studies and research is incompatible with the demands of private practice and the consequent endowment of research and laboratory specialists, the clinical branches of medical teaching and research have continued in much the same routine and with much the same methods as were in vogue a century ago. The awakening has, however, at last occurred to the fact that the clinical medicine of to-day also has changed, and that its wider reach, its more complex

methods, its more intimate association with the sciences of precision demand that the more important chairs, at least, in this division also, should command the whole, or almost the whole, time of their incumbents for teaching and research. As experts, perhaps, it might be for the public good, and even that of medical science itself, that they should be allowed to give the benefit of their special medical scholarship and erudition in consultation; but that they should be burdened with the strain and the thousand exactions of active practice has at last been recognised as incompatible with a progress in the clinical branches of medicine comparable with the strides made in laboratory medicine. In future, therefore, the chairs of medicine, pathology, and pharmacology are to be placed on this basis, while new departments are announced for physiological chemistry, comparative pathology, and research medicine. The appointments are to be as follows: Medicine, Dr. David L. Edsall (Dr. James Tyson retires after very many years of most honourable record), assisted by Dr. J. H. Musser and Dr. Alfred Stengel; pathology, Dr. Howard F. Ricketts, from the University of Chicago; physiological chemistry, Dr. Alonzo E. Taylor, from the University of California; comparative pathology, Dr. Allen J. Smith; research medicine, Dr. Richard M. Pearce, from University and Bellevue Hospital Medical College, New York. The chair of pharmacology has not yet been filled. Another important item in the programme of reconstruction is the division into three departments—social, laboratory, and clinical—of the associated Henry Phipps Institute for the Study of Tuberculosis, which will thus afford ample opportunities for clinical teaching as well as for research work in this modern cynosure of medicine. It is gratifying to learn that very generous provision has been made to support these changes. It is earnestly to be hoped that possible munificent donors of the future will follow the lead thus set and emancipate many other medical schools throughout the country from their present thraldom to the antiquated conditions of pioneer civilisation.

The Banquet to Dr. W. H. Welch.

The banquet given to Dr. W. H. Welch, professor of pathology at the Johns Hopkins University, at Baltimore on April 2nd will long stand out as a mark in the annals of American medicine, for it had a professional as well as a personal significance. Dr. Welch is perhaps better known than any other American physician to the British profession in general, if for no other reason, at least as the deliverer a few years ago of the Huxley lectures on Immunity. On this continent he stands as the acknowledged leader of the profession, and the wonder is, not that he should have been tendered a banquet, at which some 450 men and women, representative not only of the medical sciences but of science and learning in general, of industry, commerce, and politics, were present, but that he should for so long have succeeded in his persistent efforts to evade that honour. The fact that Dr. Welch is president-elect of the American Medical Association, however, was too good an occasion to let slip, and he has been fairly "corralled" into at last assenting to what he had so often refused. The honour in this case is not merely a degree *honoris causâ*, but one granted *summâ cum laude* for work done, a degree specifically earned by his constant unremitting faithful labours on behalf of the association as a member of its board of trustees. The banquet was a triumph and I make no attempt to give any detailed account of it. Suffice it to say, that many speeches were delivered—eulogistic by Dr. W. S. Thayer, who acted as toastmaster, humorous by Dr. Abraham Jacobi, poetic by Dr. Weir Mitchell, in various veins by others; but through them one and all ran the same refrain—admiration, devotion, affection. All emphasised the leadership attained by Dr. Welch among medical scientists, teachers, university administrators, and national councillors. And his work is still going on, and will continue to go on even long beyond his own personal career, through an apostolical succession of pupils, who even now hold a large proportion of the important posts that medicine, and particularly pathology, has to offer in the United States.

Legislative Control of the Cold Storage of Foods.

The public interest in the practice of wholesale dealers in foods, who collect immense quantities of perishable foods in cold-storage buildings and thus create a scarcity of such articles in the markets and a consequent increase of the prices of such articles, has culminated in the effort in many States to place these establishments under rigid Governmental control. When the cold-storage system was first undertaken there was a general belief that it would tend to meet the emergencies which often occurred through great scarcity in foods by having an ample supply on hand. It was also believed that this supply, ready at any moment to be delivered to the retail dealers, would prevent any increase in the prices of food when there was a diminished supply, as usually occurs in the changing of the seasons. But the contrary has proved to be true. By means of cold storage the wholesale dealer has been able to make a scarcity of the food in which he is interested at any time and to raise the price of the food at his will. We have just passed through such an experience. Eggs, for instance, almost disappeared from the market by concerted action of the large dealers, and yet thousands of dozens were in storage near at hand and were supplied at prices prohibitive to the masses of the people. The methods of remedying this growing evil are numerous, but all aim to place such restrictions upon the storage of foods and to provide such governmental oversight of these establishments as will prevent the abuses which have now become intolerable.

Summary of the Antituberculosis Campaign.

A review of the work done in the campaign against tuberculosis has been published which shows the following facts: In the year 1909 $8,180,621 were spent, 9,456,409 pieces of literature were distributed, and 117,312 patients were treated. There were about 300 associations engaged in the work and the capacity of the various institutions aggregated 14,208 beds, 60 per cent. being for incipient cases, 15 per cent. for moderately advanced cases, and 25 per cent. for advanced cases. The demand for institutional care is increasing and the small local hospital is becoming popular. The average daily individual expenditure of hospital and sanatoriums was $1.34. There are 250 dispensaries with 61,000 patients. Reports from all parts of the country indicate that during the present year the work will be more than doubled. Special antituberculosis appropriations, aggregating $3,976,500, have been made in the various municipalities this year, and in addition over $4,000,000 have been appropriated by State legislatures. Large numbers of new organisations are being formed and existing institutions are planning enlargement of their operations.

Medical Men as Expert Witnesses.

Mr. William Travers Jerome, ex-district attorney of New York city, recently advocated the establishment of a tribunal for the medical profession which should have power to suspend or expel members of the medical profession for gross professional misconduct, as lawyers are disbarred under corresponding circumstances. Mr. Jerome, however, seized the opportunity to say some very comforting things about the general sincerity of medical men, in view of the widespread denunciation and impugning of the profession in respect of their alleged venality as expert witnesses. "No man," he said, "has had more experience with experts than myself during the eight years I was district attorney, and during that time I recall only one man whose testimony was radically dishonest. There were many who disagreed with me honestly." And again, in speaking of one medico-legal case in which there was a miscarriage of justice with consequent scandals, he said: "I am positive in stating that the scandals arose through judicial incompetency rather than from any corrupt medical testimony."

April 12th.

NOTES FROM INDIA.

(FROM OUR OWN CORRESPONDENTS.)

Plague.

THE plague returns for the week ending March 12th show 20,928 deaths, compared with 21,514 in the week preceding. The Bombay Presidency reported 1005, Bengal 3076, the United Provinces 8792, the Punjab 6502, Burma 303, and the Central Provinces 1095. The Central India and Rajputana returns have not yet been received. Mr. A. C. Walker, I.C.S., District Magistrate of Mainpuri, presided over a mass meeting of the citizens of Mainpuri which was called by Munshi Prem Behari, sub-judge and secretary of the Plague

Committee, to consider measures for the prevention of plague, on March 9th, at the Aikman Union Club. Captain H. B. Steen, I.M.S., civil surgeon, explained that the rat was the chief cause of plague, and therefore the houses should be kept free of them by using rat poisons, burning sulphur or naphthaline balls, and keeping cats. Captain Steen gave many other useful hints on the subject. Chaube Dammilal said he addressed the meeting as a non-official, and pointed out that in Hindu religion self-preservation was more important than the killing of animals, and there was no valid religious objection to killing rats. Maulvi Fazi Karim and Mr. Prem Behari also delivered addresses on the subject, and Mr. Asgar Hussain explained the havoc created by the plague and described the remedies.

A School of Tropical Medicine for India.

In connexion with the proposal to establish a Pasteur Institute in Assam, public interest has been quickened in the more important question of a School of Tropical Medicine for India. The subcommittee of local medical men which reported on the proposed institute urged that original research into such diseases as kala-azar, blackwater fever, &c., could be carried out with great advantage in Assam. But if India is to have its tropical school, and it certainly should have, something more must be done than the creation of an annexe to the small Pasteur Institute at Haflong. The time has come when the Government should move in the matter and no longer entirely rely upon the London and Liverpool schools for post-graduate instruction for medical officers. In no country is the necessity for a tropical school of medicine more urgent than it is in India, and the endowment of such an institution should no longer be delayed. Calcutta would seem to be the place indicated, and the school should be founded in connexion with the Medical College, where the opportunities for clinical study are unrivalled. The Government of India is being appealed to constantly for more grants for sanitation, the prevention of malaria, &c., but if there are spare funds available some portion of them could well be diverted to the scientific school, for which there is now so clear a demand. The question is one which claims immediate attention, and this it will doubtless receive at the hands of the responsible medical authorities.

Hospital Assistants.

The Government of India has approved of the effective strength of the hospital assistant branch of the Indian Subordinate Medical Service being revised as follows: Total 873, of which Bengal will have 579, Madras 110, and Bombay 184.

The Civil Medical Profession in India.

At a meeting of the Imperial Legislative Council held at Calcutta on March 18th, His Excellency the Viceroy presiding, Mr. Gokhale asked for information respecting the steps taken or in contemplation to give effect to the recommendations contained in Lord Morley's despatches on the subject of the growth of a civil medical department in India. Replying to Mr. Gokhale, Sir Harvey Adamson said:—

> The Government are aware that there is a desire on the part of medical practitioners in India to be admitted to Government medical appointments, but they are not aware that any considerable dissatisfaction exists in the country on the subject. At present the chief civil surgeoncies, the hospital appointments, and the teaching appointments in the Government medical colleges are mainly held by officers of the Indian Medical Service. The Government are, however, considering the possibility of throwing open a certain number of such appointments to non-official medical men. The honourable Member is not correct in suggesting that the Secretary of State has recommended the establishment of a civil medical department in India. It was decided by Lord Morley that the time had arrived when no further increase of the civil side of the Indian Medical Service should be allowed and that efforts should be made to reduce it by gradually extending the employment of civil medical practitioners recruited in India. Effect has been given to the first portion of that decision, and, as already stated, the Government are considering what steps can be taken to give effect to the second of these principles. Local governments have been addressed on the subject, but until their replies have been received and considered, the Government are unable to state what form the decision will finally take.

The New Hospital at Coonoor.

Matters appear to be maturing satisfactorily for the construction of the new hospital at Coonoor under the auspices of Major R. Bryson, I.M.S., the present medical officer of that sanatorium. Major Bryson's tenure of office terminates in the course of a few months, and great regret is expressed locally at the prospect of losing so popular an officer, who wished to see the new institution started before he leaves. The reputation of the existing hospital, cramped and unsatisfactory as its accommodation is, is so good that the sick are flocking to it from all parts of the district. An excellent chief had the desired effect of producing an attentive and competent staff, one of the most useful of whom is the native assistant surgeon, Mr. Menon, who hails from the Western Coast and is an efficient assistant to Major Bryson. The proposed new hospital will provide a European block to comprise four wards, each containing one bed; a native male ward, containing nine medical and five surgical beds; a native female ward, containing six medical and four surgical beds; a maternity ward, containing four beds, connected by a passage with a labour ward; and an out-door patient dispensary. The plans and estimates for the institution, thus equipped, will no doubt be accepted and financially provided for, when construction will be put in hand.

March 26th.

Obituary.

FREDERICK WILLIAM JORDAN, M.D. DURH., L.R.C.P. LOND., M.R.C.S. ENG., B.SC. VICT., D.P.H.

MANCHESTER and the district round it has recently lost a well-known member of the medical profession in the person of Dr. F. W. Jordan of Heaton-Chapel, near Stockport, who died suddenly at Blackpool, where he had gone on a visit to recruit his failing health. Dr. Jordan received his medical education at Owens College, and qualified in 1873 as a Licentiate of the Royal College of Physicians of London, a Member of the Royal College of Surgeons of England, and a Licentiate of the Society of Apothecaries. For some time he was an assistant house surgeon at the Sheffield General Infirmary. In 1889 he took the public health diploma at the Owens College, and in 1897 became a Doctor of Medicine at the University of Durham, and seven years later, in 1904, he took the B.Sc. at the Victoria University of Manchester, and was also a Radcliffe student at Oxford. For 15 years he acted as medical officer of health for the Heaton Norris district, and on the completion of this period he was presented by the members of the Heaton Norris council with an illuminated address of congratulation.

Outside his professional work Dr. Jordan was keenly interested in meteorology, and for a long series of years kept careful records which he often contributed to the local press. He was also a Freemason, and the esteem in which he was held within that body was shown by the offices which he had filled. His chief literary work was a life of his uncle, Mr. Joseph Jordan, well known at one time as an honorary surgeon to the Manchester Royal Infirmary. The "Life of Joseph Jordan" contained a history of the medical schools of Manchester and many details of provincial medical education which will some day be of considerable interest. Among the papers which he contributed to various medical journals were "Notes on Diphtheria" in the *Practitioner*, 1884, "A Chapter on Sanitary Jurisprudence" in *Public Health*, 1889, and "Infective Sore Throat or Diphtheria?" in the same publication in 1894. The funeral took place at the Manchester Crematorium after a memorial service at St. Paul's Church, Heaton Moor.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. H. Kuborn, formerly president of the Royal Belgian Academy of Medicine.—Dr. Paul Moinard, formerly physician to the Paris hospitals.—Dr. Max Hirschberg, one of the most eminent surgeons in Frankfort, died suddenly from heart disease in a cab as he was returning from the Surgical Congress. He was 67 years of age and had written a good many papers on surgical subjects, especially dealing with abdominal operations.

LITERARY INTELLIGENCE.—Messrs. Constable and Co. are publishing immediately a valuable little book of pocket size, being a Guide to the Preservation of Health in West Africa, by Henry Strachan, F.L.S., C.M.G., &c., principal medical officer in Southern Nigeria. Mr. Strachan's work is so well known that this booklet should be welcomed by all whose avocations carry them to this district, where the care of health on certain definite lines is necessary.

Medical News.

UNIVERSITY OF LIVERPOOL.—The following is a list of the successful candidates in the recent examinations for the Diploma in Tropical Medicine:—

Richard Dowden, M.D. Dub.; William Robert Wallace James, L.R.C.P. & S. Edin., L.F.P.S. Glasg.; Vishnu Tatyaji Korke, M.R.C.P. Edin., L.M. & S. Bombay; John William Scott Macfie, M.B., Ch.B. Edin.; Mack Walter Manuk, M.B., C.M. Edin.; Kishavlal Balabhai Nanavati, L.M. & S. Bombay; Ralph Welty Nauss, M.D. Chicago; Thiruchelvam Sabastian, L.R.C.P. & S. Edin., L.F.P.S. Glasg., M.D. Brux.; Hugh Thomas Shaw, M.D., M.Ch. R.U.I., D.P.H. Liverp.; Antonio Bernardo de Souza, L.M. & S. Bombay; and Captain Maurice Forbes White, I.M.S., M.B., Ch.B. Aberd.

UNIVERSITY OF GLASGOW.—The following have passed the first professional examination for the degrees of M.B., Ch.B. in the subjects indicated (B., Botany; Z., Zoology; P., Physics; and C., Chemistry):—

George Kirkwood Allan (Z. and C.), Jas. Mair Anderson (P. and C.), Robert Armstrong (Z. and C.), George Flett Barr (Z. and C.), Andrew Duffield Blakely (C.), Abraham Blashky (Z.), Robert William Brander (Z.* and C.), William Hunter Brown (Z. and C.), William Edmund Alexander Buchanan (Z. and C.), James Wilson Burton (P.), James Campbell (Z. and C.), John Campbell (B. and P.), James Alexander Chrystie (C.), Allan La Barte Clark (B. and P.), Andrew Climie (Z. and C.), George Gibson Cooper (P. and C.), James Paterson Crawford (Z.), William Cullen (B. and P.), Walter Thompson Currie (Z. and C.), Fritz Vivian Daeblitz (B. and C.), Gabriel Daniel de Kock (B. and P.), Michael Devers (P.), Thomas Ingram Dun (B. and C.), Dugald Ferguson (Z.), James Bryan Fotheringham (C.), William Gibson (Z.), Thomas Gilchrist, M.A. (B., Z., and C.), John Aitken Gilfillan (Z. and C.*), Peter Gordon (Z. and C.), Robert Masson Greig (Z. and C.), Alexander Hislop Hall (Z. and C.), Eduardo Guillermo Sanchez Hall (B. and P.), David Cochrane Hanson (Z.), David Hardie (Z.), Fergus Leslie Henderson (Z. and C.), Rollo Isbister (Z.), William Yulll Jamieson (B., P., and C.), Alastair Caulfield Jebb (Z. and C.), David Johnston (Z. and C.*), Douglas Reid King (B.), William Fulton Kivlichan, M.A. (Z.), Hugh Lang (Z. and C.), Alexander Lindsay (B.), Reginald Lyon (B. and P.), Douglas M'Alpine (B.), Daniel Steel M'Bean (Z. and C.), George M'Callum (Z. and C.), Archibald Munn M'Cutcheon (Z. and C.*), Duncan Fraser Macdonald (Z. and C.), James Walter Macdonald (Z. and C.), John Bowes M'Dougall (Z.* and C.*), Gerald James M'Gorty (Z. and C.), Charles Robertson M'Intosh, M.A. (Z. and C.*), Donald M'Intyre (Z. and C.), Donald M'Donald M'Intyre (B., P., and C.), James Murdoch Mackay (Z. and C.), David Mackie (B. and Z.), Philip Stevenson Mackie, M.A. (Z. and C.), Neil MacLeod (B.), Frederick William M'Millan (Z. and C.), Robert M. M'Minn (B. and C.), David M'Neill (Z.), Jas. Kennedy Manson (B. and P.), William Martin (Z. and P.), William Moffat Matthew (Z.), Walter John May (Z.), William Meikle (Z. and C.), Alexander Dryden Moffat (Z. and C.*), James William Moffatt (Z. and C.*), Thomas Fraser Noble (B.), Thomas Augustine O'Brien (C.), James Paterson (Z. and C.), William Luddington Peacock (Z. and C.*), Andrew Picken (Z. and C.), John Stuart Prentice (Z.), Frederick Powlett Rankin (Z. and P.), Adam Rankine (P.), Robert Cecil Robertson (Z. and C.), Stanley Robertson (Z. and C.), Stuart Robertson (Z. and C.), Stuart Dewar Robertson (Z.), George William Ronaldson (B. and C.), Robert Rowan (Z. and C.), Alexander Scott (Z. and C.), James Reid Sinclair (Z. and C.), Norman M'Gaan Smith (Z. and C.), John Banks Steven (Z. and C.), John Symington Stewart (B., Z., P., and C.), Robert Tennent (Z.* and C.), Cecil Raymond Tytler Thompson (C.), Robert Mitchell Thomson (Z. and P.), Robert Noel Thomson (Z.), James Vallance (Z. and C.), Carel Johannes van Lingen (B.), James Walker (Z. and P.), Robert Bruce Wallace (B. and P), Henry Currie Watson (Z., P., and C.), John Allan White (B. and P.), Clive Alan Whittingham (Z. and C.*), Joseph Bannister Williamson (Z.* and C.*), Robert Horatio Williamson (C.), James Gordon Wilson (B. and Z.), Thomas Robert Wilson (P.), John Wylie (Z. and C.), Thomas Wilson Wylie (Z. and C.), Alexander Young (B., Z., and P.), and John Miller Young (B. and P.).

Women.—Dagmar Florence Curjel (Z. and C.), Muriel May Curtis (P.), Ethel Winifred Gompertz (Z. and C.), Lillias Beverley Hardie (B., P., and C.), Florence Scott Kirk (Z. and C.), Gladys Montgomery (Z.* and C.), Janey Lamond Munro (Z. and C.), Sara Adam Watson (Z.* and C.), Grace Birrell Whish (Z. and C.), Marguerite Wilson (Z. and C.), and Mary Ferguson Wood (C.).

* Passed with distinction.

The following have passed the second professional examination for the degrees of M.B., Ch.B., in the subjects indicated (A., Anatomy; P., Physiology; M., Materia Medica and Therapeutics):—

William Larmour Anderson (P.), James Angus (A.), Richard Archibald Barlow (A.* and P.*), Johannes Gerhardus Becker (A., P., and M.), Samuel Blumenfeld (A., P., and M.), Vynne Borland (A.), Adam Brown (A., P., and M.), Robert Archibald Brown (P.), William Brown (P. and M.), John Scouler Buchanan (A., P., and M.), William Murdoch Buchanan (M.), Edmund Tytler Burke (P.), John Joseph Burke (P. and M.), John Cameron (P.), Norman Cameron (P.), William Leonard Cassells (A. and P.), James Alphonsus Joseph Conway (A. and P.), Robert Craig, M.A. (A. and P.), Daniel Augustine Cush (P.), George Dalziel (A. and P.), Alexander Hugh Davidson (P. and M.), William Cameron Davidson (A. and P.*), William Tennent Gairdner Davidson (A., P., and M.), James Henry Dible (A. and P.), John Dickie (A.,* P.,* and M.), William Beatson Drummond (A., P., and M.*), Robert Findlay (A.), John Maitland Forsyth (P.), William Forsyth (A., P., and M.), John Erskine Fyfe (A., P., and M.), Adolph Robert Hanns Geyer (A.), John Joseph Gibb (A., P., and M.), Alexander Muir Gibson (A., P., and M.), Alexander Glen (A., P., and M.), Leopold Glushak (P.), James M'Farlane Grier, M.A. (P. and M.), John Alexander Harper, M.A. (A., P., and M.), Daniel Christopher Hayes (A., P., and M.), John Wishart Welsh Hewitt (P. and M.), Andries Johannes Joubert (A., P., and M.), Felix Arthur Kerr (M.), Charles Joseph Kirk (P.), Robert Patrick Archibald Kirkland (A., P., and M.), Johannes Arnoldus Kruger (A. and P.), Norman Veitch Lothian, B.Sc. (M.), Crawford Lundie (A. and P.), Jas. Ronald M'Curdie (P. and M.), Charles Aloysius M'Guire (A., P., and M.), Guy Dalzell M'Lean (A., P., and M.), John Malcolm Macpherson (A., P., and M.), John Henry Magoveny (P.), Malcolm Manson, M.A. (M.), Thomas Martin (A., P., and M.), John Mitchell (A.), William Montgomery (P. and M.), Michael Murphy (P. and M.), Hugh Loudon Neil (M.), John Boyd Orr, M.A. (A. and P.), Robert Parker (M.), Andrew Peden (P.), John Clark Pyper (A., P., and M.), James Francis Quigley (Lambhill) (M.), David William Reid (A. and P.), John Ritchie Richmond Ritchie (A. and P.), Alfred Leopold Robertson (A. and P.), James Gordon M'Gregor Robertson (P.), James Hinton Robertson (A.* and P.), James Inglis Robertson (A., P., and M.), Archibald Watson Russell (A. and P.), Samuel Rutherford (A., P., and M.), Frank Shearar (P. and M.), John Finlayson M'Gill Sloan (P. and M.), James Smith (A.), Alexander Robert Bogue Soga (A., P., and M.), Malcolm Sommerville (A.), Graham Stevenson (A., P., and M.), John Alexander Stewart (A. and M.), Ronald Stewart (A., P., and M.), William Patrick Andrews Stewart (P. and M.), William Taylor (A. and P.), William Rowland Taylor (A. and P.), John Cameron Thomson Teggart (A., P., and M.), Ernest Graham Young Thom, M.A. (A. and P.), Angus Walker (A.* and P.), John Cuthbertson Walker (A.), Thomas Walmsley (A. and P.*), Tom Waterhouse (A. and M.), George Milroy Whish (A., P., and M.), Matthew White, M.A. (A. and P.), William Herbert Nairne White (P.), William Whitelaw (A., P., and M.), William Brockie Wilson (A.,* P.,* and M.), William Ferguson Wood (P.), and Walter Percy Yates (A., P., and M.).

Women.—Cecilia Small Turnbull Anderson (P.), Jane Malcolm Davidson (A. and P.), Maggie Logan Kirkwood (A. and P.), Barbara Macgregor (M.), Helen Brown Orr (M.), Lucy MacBean Ross (M.), Isabel Jane Stark (M.), Petrina Stewart (P.), and Janet Morris Walker (A.).

* Passed with distinction.

The following have passed the third professional examination for the degrees of M.B., Ch.B., in the subjects indicated (P., Pathology; M., Medical Jurisprudence and Public Health):—

James Wallace Anderson (P. and M.*), Charles Averill (P. and M.*), Thomas Stewart Barrie (P. and M.), William Egon Halman Beard (P.), John Bower (M.), Charles Brash (M.), David Sands Brough (P. and M.), Alexander Hogg Brown (M.), James Turner Brown (P. and M.*), Angus Dugald Buchanan (M.), Charles Cameron, M.A. (P.* and M.*), John Campbell (P. and M.), Robert Corbett Corbett (P. and M.), Peter Drummond (P.), Alexander Moffat Dunlop (M.), Kinloch Falconer (P. and M.), James Findlay, M.A. (P.), Hugh Forrest (P. and M.), Alexander Fraser (P. and M.), Thomas Lochhead Fraser (P.), Leander Lowrie Fyfe (P. and M.), Archibald Gardner (P. and M.), Andrew Garvie (P. and M.), John Gibson, M.A. (P.* and M.), William Gordon Goudie (P. and M.), John Radcliffe Grice, M.A. (P. and M.), Charles Hope Haddow (P.), James Stewart Hall (P. and M.), Andrew Smith Hannay (P.), James Hendry, M.A., B.Sc. (P. and M.), John Richmond Herbertson (P. and M.), James Johnstone (P.), William Johnstone (P. and M.), Thomas Joseph Kirk (P.), Alexander Kirkhope (P.), John M'Callum Lang (P. and M.), Norman M'Farlane (P. and M.), James David Mackinnon (P. and M.), Murdo Mackinnon (P.), William MacMurray (P. and M.), William Wyllie MacNaught (P. and M.), Stephen Anderson MacPhee (M.), George Hanson M'Robert (M.), John Pearson M'Vey (P. and M.), Malcolm Manson, M.A. (P. and M.), Frank William Martin (P.), Farquhar Matheson (P. and M.), James Matheson (P. and M.), Donald Meek (M.), Stuart Spence Meighan, B.Sc. (P.), Andrew Muir (P. and M.), Michael John Murray (M.), Archibald Naismith (M.), Hugh Loudon Neil (P. and M.), Hugh Paterson (P. and M.), James Francis Quigley (Rutherglen) (P. and M.*), Alexander Rae (P.), Hugh Young Riddell (M.), John Livingstone Scott (P.), William Logan Scott (P.), John Ferguson Smith, M.A. (P. and M.), William Sneddon (P. and M.), Roderick Alexander Steven (P.), Lawrence Tweedie Stewart (P.), James Alexander Hamilton Telfer (P. and M.), William Tudhope (P.), Gordon Alexander Valentine (P. and M.), Alexander Gold Waddell (P. and M.), James Douglas Walker (P. and M.), Alexander Guthrie Semple Wallace (M.), Hugh Ferguson Watson, L.R.C.P. (P.*); Alexander Stewart Wilson (P. and M.), Douglas Wilson (P.), High Gilmer Wilson (M.), and Fergus Hay Young, M.A. (P. and M.).

Women.—Agnes Barr Auchencloss (P. and M.), Marie Alexina Annette Beard (M.), Louisa Emma Dodge (M.), Isabel Inglis (M.), Jeanie Walker Jones (P. and M.), Katherine Stewart Macphail (P. and M.), Barbara Grace Rutherfurd (P. and M.), and Barbara Sutherland, M.A. (P. and M.).

* Passed with distinction.

The following have passed the fourth (final) professional examination for the degrees of M.B., Ch.B.:—

Thomas Adam, M.A., M.R.C.S., David Rutherford Adams, Archibald Aitchison, Charles Auld, John Bruce Baird, B.Sc., Edgar Barnes, M.A., Charles Stewart Black, John Broadfoot, William George Clark, James Thomson Dick, James Dunlop, M.A., Robert Gilchrist, Pietro Giuliani, Allan Byars Hamilton, Saul Hyman Harris, James Walker Jones, Honoria Somerville Keer, Angus Macaulay, Ian Macdonald, Malcolm Angus MacDonald, Donald M'Dougall, William Macewen, William Maxwell M'Kie, Thomas Mackinlay, Donald Mackinnon, Agnes Mary M'Michael, Angus Millar, Margaret Muir, Mary Amelia Pilliet, Olive Robertson, Joseph Henri Napoleon Felix Savy, James M'Alpine Scott, M.A., John MacNaught Scott, M.A., William Wilkie Scott, George Rae

Spence, Edward Ernest Stewart, Andrew Edgar Struthers, B.Sc., Charles Lindsay Sutherland, Duncan Macnab Taylor, Aidan Gordon Wemyss Thomson, Jemima Wallace, William Samuel Waterhouse, Harold Edward Whittingham, William Richard Wiseman, M.A., B.Sc., Marian Aitken Wylie, M.A., and Douglas Young.

The following passed with distinction in the subjects indicated:—

In (*a*) Surgery and Clinical Surgery, (*b*) Midwifery—William Macewen. In Surgery and Clinical Surgery—Malcolm Angus MacDonald. In Practice of Medicine and Clinical Medicine—Jas. Thomson Dick, James Dunlop, M.A., and Harold Edward Whittingham. In Midwifery—David Rutherford Adams and John Broadfoot.

QUEEN'S UNIVERSITY, BELFAST.—At examinations held recently the following candidates were successful:—

FIRST MEDICAL EXAMINATION.

Botany.—A. E. M. Carleton, Vincent Magee, and V. C. Montgomery.

Zoology.—R. G. Blair, F. J. Devlin, Edmund Doherty, John Duffin, A. Fullerton, Margaret Gorman, Thomas Grimson, W. H. Hardy, W. S. B. Hay, Beattie Lyons, Walter T. McCurry, A. G. McKee, T. B. McKee, Frederick McKibbin, R. N. McKinstry, Terence P. McQuaid, Vincent Magee, R. J. Maguire, E. A. Mallon, Sylvia Marsh, V. C. Montgomery, W. N. Montgomery, J. J. Murray, G. W. Rea, E. M. Robb, J. C. Robb, J. S. Savage, A. F. L. Shields, F. A. E. Silcock, F. G. Smyth, J. Tate, R. F. Walker, and Peter P. Wright.

Experimental Physics.—R. G. Blair. Wm. M'N. Chesney, W. W. Dickson, Edmund Doherty, John Duffin, A. Fullerton, David Gaston, W. S. Gibson, Thomas Grimson, W. H. Hardy, Charles C. Humphreys, Frank Lamont, Beattie Lyons, W. T. McCurry, James McKay, Fredk. McKibbin, R. N. McKinstry, H. F. McNally, T. P. McQuaid, R. J. Maguire, E. A. Mallon, G. R. B. Purce, G. W. Rea, J. C. Robb, W. Russell, J. S. Savage, A. F. L. Shields, F. A. E. Silcock, F. G. Smyth, A. C. Taggart, J. Tate, D. B. L. Walker, R. F. Walker, D. K. Watterson, R. H. Wilson, W. R. E. Wilson, and Peter P. Wright.

Chemistry.—A. W. Bourke, A. E. M. Carleton, W. J. Carson, H. T. Chatfield, W. M'N. Chesney, Robert Condy, W. W. Dickson, S. J. W. Donald, David Gaston, Michael Gilligan, George Gordon, Charles C. Humphreys, J. F. D. Hunter, D. Jamison, L. Jefferson, W. J. Lascelles, James McKay, H. F. McNally, Vincent Magee, V. C. Montgomery, M. G. Paul, G. R. B. Purce, F. R. Sinclair, J. M. Smith, James Smyth, J. K. Stewart, D. B. L. Walker, J. C. Wilson, R. H. Wilson, W. R. E. Wilson, F. N. Woods, and Robert Woodside.

SECOND MEDICAL EXAMINATION (*Old Regulations*).

Practical Chemistry.—A. M. Berman, H. Buchanan, J. E. Finlay, Wm. Gault, H. D. Graves, S. A. Montgomery, D. K. Patterson, and D. Stevenson.

SECOND MEDICAL EXAMINATION (*New Regulations*).

Samuel Acheson, *S. R. Armstrong, *S. H. Davison, J. McI. Gibson, Fredk. Jefferson, John McFadden, Michael McGing, Edward McSorley, Ivan W. Magill, H. H. Mulholland, *W. M'N. Walker, Harold V. Walsh, J. R. Henry, and Joseph Porter.

* Passed with honours and prize awarded.

THIRD MEDICAL EXAMINATION (*Old Regulations*).

W. F. Algeo, W. W. Allison, *J. H. Beverland, David Calwell, Miss S. E. Calwell, C. L. Gaussen, N. C. Graham, J. J. Hanratty, James Hill, J. T. Kyle, James Lyons, A. L. McCreery, Richard McCulloch, †Robert Marshall, William Megaw, A. E. H. Reid, S. I. Turkington, and S. J. Yeates.

Materia Medica.—H. A. Gillespie and G. E. Hull.

* Passed with honours and gained first scholarship.
† Passed with honours and gained second scholarship.

M.B., B.CH., B.A.O. DEGREES.

J. B. Crawford, C. H. Harbinson, J. H. Harbison, *J. L. Jackson, Barkley McCullough, Hamilton Mathewson, G. E. A. Mitchell, K. F. Mulligan, John Spence, †W. W. D. Thomson, and A. W. Connolly.

* Passed with second-class honours.
† Passed with first-class honours and awarded scholarship (£40).

Pathology, Medical Jurisprudence, and Hygiene.—Samuel Campbell, S. K. McKee, T. J. Magill, and A. H. Rentoul.

Hygiene and Medical Jurisprudence.—Elliot P. Dewar.

HOSPITAL SATURDAY FUND.—The annual meeting of this Fund was held on Saturday last, April 16th, at the Mansion House, under the presidency of the Lord Mayor. The report, the adoption of which was carried unanimously, showed that the income had risen since 1897 (the year in which the street collection was discontinued) from £20,138 to £30,662 in 1909, while the expenses had fallen from 12·5 per cent. to 7·9 per cent. During the same period the convalescent home letters have increased from 1351 to 1796. Two-thirds of the patients pay 5*s.* or 6*s.* a week. In 1897 the dentistry department of the Fund assisted 174 patients, while in 1909 the number has risen to 1892. In moving a resolution approving of the action of the Fund in providing assistance to those needing dental treatment, Mr. Montagu F. Hopson said that about 86 per cent. of our poorer classes were suffering from dental disease. He dwelt on the importance of providing dental treatment for children, which, if it did not eradicate dental disease in the course of a generation or so, would do much to prevent it. But treatment should be undertaken early.

TORBAY HOSPITAL, TORQUAY.—A bazaar, which realised about £700, was recently held in Torquay in aid of the funds of the Torbay Hospital.

A CORNISH CENTENARIAN.—Mrs. Mary Matthews died at Tywardreath, Cornwall, on April 13th at the age of 106 years. She was born at High Bickington, North Devon.

THE SEWAGE OF OKEHAMPTON (DEVON).—At a meeting of the Okehampton town council held recently a tender for £3983 was accepted for the purpose of carrying out works of sewerage and sewage disposal.

LONDON COUNTY COUNCIL.—The following appointments as chairmen of committees have been made: Public Health, Major C. Skinner; Asylums, Mr. H. V. Rowe; Education, Mr. Cyril Jackson; and Midwives Act, Mr. W. F. Barrett (with Miss A. S. Gregory to the vice-chair).—Long Grove Asylum has been added to the list of asylums recognised by the Conjoint Examining Board of the Royal Colleges of Physicians of London and Surgeons of England for clinical demonstrations in lunacy.

ROYAL SOUTHERN HOSPITAL, LIVERPOOL.—The result of the final ballot for the appointment of an honorary surgeon for the Royal Southern Hospital was the election by 24 votes to 12 of Mr. Douglas Douglas-Crawford, F.R.C.S. Eng., honorary surgeon to the Liverpool Stanley Hospital and lecturer in clinical surgery and surgical anatomy in the University of Liverpool. The committee of the Royal Southern Hospital is to be congratulated upon the addition to its staff.

DEMONSTRATIONS OF MODERN METHODS.—The Bristol Medico-Chirurgical Society is indebted to its secretary, Dr. J. A. Nixon, for a very happy idea. The last meeting of the society was devoted to a demonstration of modern diagnostic appliances, including direct laryngoscopy and ophthalmoscopy, some of the newest modifications of cystoscopy, the use of the polygraph, and so on. There was a good attendance of members and ample time was provided for a brief exhibition of each of the various apparatus and the method of application.

READING PATHOLOGICAL SOCIETY.—Under the auspices of this society a lecture was given by Mr. Stephen Paget on April 14th in the Town Hall, Reading, before an appreciative audience, on the subject of "What we Owe to Experiments on Animals." The lecturer, who was introduced by Dr. J. B. Hurry, the President of the society, described in a graphic manner the great strides that had been made in our knowledge of disease during recent years owing to experimental methods of investigation. At the conclusion a local branch of the Research Defence Society was formed with a strong list of names (both medical and lay) as a provisional committee.

PROFESSOR A. M. PATERSON.—The recent conference on Professor A. M. Paterson of an honorary Fellowship of the Royal College of Surgeons of England has given much satisfaction to his numerous friends in Liverpool. Professor Paterson has been professor of anatomy in Liverpool since 1894, when he succeeded the late Sir William Mitchell Banks upon the chair of anatomy being endowed by the then Earl of Derby. Professor Paterson has held many representative positions in the University. He was dean of the medical faculty of the University for nine years, resigning in 1903, when he was elected chairman. He is treasurer of the new dental hospital, in the erection of which he has taken a leading part.

A STOCKPORT HOME FOR CONSUMPTIVES.—The Stockport board of guardians has decided to provide accommodation at the Stepping Hill Hospital estate for male patients suffering from tuberculous disease. The plans for the building have been passed by the Local Government Board with some alterations suggested by the Board's architect. The site chosen is the highest on the estate and is about 300 feet above sea level. The building is to be of one storey, with an open verandah to the south and with the exercise grounds in front. The patients can be wheeled in their beds to the verandah and the most approved methods of treatment as to food, fresh air, and isolation will be adopted. At present there are 46 consumptive patients in the hospital and their removal to the new buildings will be

a great relief to the overcrowded wards. The buildings are to cost £2400 and their equipment £480.

THE Chelsea Hospital for Women has received from the trustees of the Zunz bequest a grant of £2000 to name a ward the Annie Zunz Ward.—Lord Castlereagh has accepted the office of President of the hospital.

NORTH DEVON INFIRMARY, BARNSTAPLE.—At the quarterly meeting of the governors of the North Devon Infirmary, held on April 12th, the chairman alluded to the need of increased financial support for the institution. It is estimated that for the financial year which terminates next June there will be an unfavourable balance of about £500. Owing to want of funds one of the wards has had to be closed, and consequently the occupied beds have been reduced from 60 to 40. The North Devon Infirmary performs a most useful work in Barnstaple and the district, and it is to be hoped that the residents will subscribe generously and place the charity in a sound financial condition.

THE METROPOLITAN POLICE SURGEONS' ASSOCIATION.—The annual meeting of this association was held at the Restaurant Frascati on April 14th, when the report of the council was read. During the year many matters of importance to police surgeons were considered by the council, especially the law relating to coroners and coroners' inquests; and the honorary secretary of the association, Dr. C. Owen Fowler, gave evidence before the Departmental Committee appointed by the Home Office to inquire into this subject. An innovation was a special general meeting which was held in October in the Council Chamber of the British Medical Association, when Dr. W. H. Willcox read a most instructive paper on the Medico-Legal Importance of Wounds produced by Firearms. Forty-two members attended and several took part in the interesting discussion. It is hoped to arrange similar meetings, if the members will show their appreciation by attending. Mr. H. Bott was elected President for the ensuing year, and Mr. Walter Atkins Grogono Vice-President. The honorary secretaries, Dr. Owen Fowler and Dr. G. Nicol Henry, and the honorary treasurer, Dr. C. P. Gallie, were re-elected, and a vote of thanks was unanimously passed to these gentlemen for the able manner in which they had carried out their respective duties during the past year. The meeting was followed by the annual dinner. Mr. A. F. L. Dorin was in the chair. Among the guests were Sir Edward Henry, K.C.V.O., the Chief Commissioner of the Metropolitan Police; Mr. Clinton T. Dent, the chief surgeon; Mr. Paul Taylor, the metropolitan police magistrate; and Mr. M. H. Taylor, the coroner for Kingston. After the loyal toasts had been given from the chair, Mr. Paul Taylor proposed the health of the association, and referred to the great aid which he and his fellow magistrates had always received from divisional surgeons, especially in what he facetiously termed "cases of conflicting perjury." He drew attention to the inadequate scale of fees for professional evidence, and suggested that this was a good subject for discussion by the association, and one on which they might well make representations to the Home Office. Dr. Owen Fowler in replying mentioned the fact that out of the 170 metropolitan police surgeons 153 were members of the association. The toast of "The Commissioners, Receiver, and Chief Constables" was given by Mr. Bott, and replied to by Sir Edward Henry, who made mention of certain improvements initiated by Mr. Dent, notably the arrangements for dental treatment and the admission of any venereal case into the Guards' Hospital. He also assured all present of the sympathy which requests from the association would receive from the Scotland Yard authorities. Mr. Grogono proposed the health of Mr. Dent, and Dr. W. Beech Johnston proposed that of Mr. Dorin, the chairman. Mr. Dorin, it was stated, was making on this occasion his last appearance as an active member, he having retired from practice after a membership of the association since its beginning 22 years ago, during 15 years of which he had been the honorary secretary, scarcely ever missing a council meeting, and never sparing himself any trouble for the association, the welfare of which he had so much at heart. Dr. F. G. Crookshank, in a humorous speech, expressed the satisfaction all felt at seeing the guests, which was responded to by Mr. M. H. Taylor, who feelingly mentioned the subject of fees, and especially the need for reform in the matter of payment for post-mortem examinations and coroner's court attendances by medical officers of cottage and other hospitals who, though not paid for their hospital duty, were also unpaid for this work. Between the toasts the "Queer Quakers," under the direction of Miss Lily Pritchard, added to the enjoyment of the company by their excellent rendering of songs.

DONATIONS AND BEQUESTS.—Under the will of the late Mrs. Kate Minnie Russel, the Victoria Hospital for Children, Chelsea, will receive the freehold residence of the testatrix, Koonowla, near Cudham, Kent, for the purpose of a convalescent home, with £5000 upon trust for its maintenance. Among other bequests the testatrix left £200 to the Royal Hospital for Incurables, Putney.—By the will of the late Colonel T. J. Holland, C.B., the Eye and Ear Hospital, Tunbridge Wells, will receive £500.—Under the will of the late Miss Martha Elizabeth Gray, a sum of £1000 is left to Guy's Hospital for the endowment of a bed for males in the Queen Victoria Ward of the hospital, and a sum not exceeding £200 for the endowment of a bed in Newbury Hospital.

THE LEICESTER INFIRMARY.—The 137th annual report of the Leicester Infirmary, for the year 1909, exhibits two notable features. The first is that the income has been sufficient to meet the expenditure, and the second that the deficit of £2726 brought forward from the previous year has been extinguished. During the year 3233 in-patients were treated, an increase of 87 on the preceding year; the daily average number of patients was 209. The cost per bed occupied was £76 8*s.* 4*d.*, and the cost per patient per week £1 8*s.* In the out-patient department 12,573 new cases received treatment. The total number of out-patients was 30,131. The total income for the year was £22,935. Owing to various alterations and the necessary enlargement of the institution there will probably be an extra expenditure during 1910 of £1200.

MEMORIAL TO THE LATE MR. CONNELL WHIPPLE.—A meeting was held at the Plymouth Guildhall on April 15th to consider the question of providing some memorial to the late Mr. Connell Whipple. Mr. Whipple had been for 40 years a member of the honorary staff of the South Devon and East Cornwall Hospital, and his father had also served in a similar capacity for 29 years. Consequently it was considered desirable that the memorial should be connected with that institution. After some discussion it was determined, on the motion of Sir Joseph Bellamy, seconded by Prebendary Burroughs, that the memorial should take the form of an additional operating theatre, the cost of the undertaking being estimated at about £700. Mr. Whipple was interested in the proposal for providing another operating theatre for the hospital, and was working at a scheme for promoting it at the time of his death.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Milk Legislation.

Mr. COURTHOPE has obtained for his Milk and Dairies Bill the support of Members in all parts of the House. Amongst them are Mr. GUINNESS and Captain JESSEL, who were the tellers against Mr. COURTHOPE'S motion to delete the milk clauses of the London County Council (General Powers) Bill. Other Members who are backing the Bill are Mr. WALTER LONG, Mr. HAYES FISHER, Sir LUKE WHITE, Colonel LOCKWOOD, Mr. COURTENAY WARNER, Mr. RYLAND ADKINS, Mr. CHARLES BATHURST, Mr. DAWES, and Mr. STANIER. The object of the Bill being to promote general as opposed to piecemeal legislation, makes possible the coöperation of those who took diverse views on the advisability of extending the powers of the London County Council with regard to milk-supply in a private Bill.

The Budget and Medical Men.

The Finance Bill for the year 1909-10 is being passed through the House of Commons under a closure resolution. It contains provisions for the taxation of motor-cars and motor spirit, but certain abatements are made in respect of the duties paid by medical men. The Bill leaves these abatements intact.

Public Health (Foreign Meat) Amending Regulations, Scotland.

The amending regulations made for Scotland under the Public Health

(Regulations as to Food) Act, 1907, in relation to foreign meat have been laid on the table of the House of Commons.

HOUSE OF COMMONS.

WEDNESDAY, APRIL 13TH.

The Importation of Chinese Pork.

Mr. PETO asked the President of the Local Government Board whether he had ascertained that a part or all of the shipment of Chinese pork that was condemned and refused landing at Liverpool and London had been transhipped to the Isle of Man; whether it was being there made into bacon; whether any of such bacon was being shipped to London and Liverpool; whether, as it was impossible for experts to determine by examination that bacon had been made from diseased carcasses or not, there were any means of preventing bacon, if made from diseased carcasses of Chinese pigs in the Isle of Man, being sold in this country as English-cured, and what steps would be taken to prevent it.—Mr. BURNS replied: The consignment of pork referred to in the question was not condemned in Liverpool and London as being unfit for food. So far as my information goes, it was subjected to careful examination by British experts in China before despatch, any doubtful carcasses being rejected. This circumstance and the ordinary inspection at the ports, to which food imports are subjected, seem sufficient to remove any apprehension.

Mr. FELL: Is it not a fact that the authorities refused to allow this pork to be landed in London and that it was then sent to the Isle of Man?

Mr. BURNS: The admission of this pork into London was refused not because it was unsound, or unclean, or diseased, but because it did not comply with the technical condition that it should be completely whole and that the backbone should not be taken out.

Mr. FELL: Is it not a fact that if the pork is not completely whole, and arrives in that condition, the authorities will not allow it to be landed in London?

Mr. BURNS: They will not allow these particular carcasses to be landed in England or Wales unless they are whole.

Mr. FLAVIN: Will the right honourable gentleman make inquiries into the nature and quality of the food on which these Chinese pigs are fed?

Mr. BURNS: These pigs are not the black razor-backed scavenger pigs, but are white pigs fed on rice in the Yang-tse Valley.

Mr. REMNANT: Is it not a fact that these rice-fed pigs are so fed for only one or two days before they are slaughtered?

Mr. KILBRIDE: Is it not a fact that a certain portion of the carcass in these pigs is removed in order to prevent the effectual detection of tuberculosis?

Mr. BURNS: No; on the contrary, we insist that the carcasses shall be landed whole, so that we shall have the opportunity of seeing whether the pigs have had that disease.

Mr. KILBRIDE: Is it not a fact that a certain portion of the carcass is removed so that tuberculosis cannot be detected?

Mr. BURNS: Oh, no. The reason for which the importers remove that portion of the pig is a commercial one, because it enables them to get a greater quantity of more profitable pork without the backbone than with it.

Mr. FELL further asked the President of the Local Government Board what steps he was taking to prevent the introduction into this country of the Chinese pork which was being converted into bacon in the Isle of Man, after having been twice rejected at ports in this country.—Mr. BURNS answered: Any bacon which is imported into this country is liable to inspection by the medical officer of health, and he is empowered to seize it, if, in his opinion, it is unsound, unwholesome, or unfit for human consumption.

Mr. FELL: Is the right honourable gentleman aware that 25 bales of this bacon made from pork which was not allowed to be landed in this country, has already been received at the Union Cold Storage in London?

Mr. BURNS: I do not know.

Mr. REES: Is it suggested that an expert can tell by examination of these carcasses whether they were rice-fed or how long they were fed?

Mr. BURNS: We took the precaution to consult the British consul in the neighbourhood where these pigs are fed and in the district from which they are despatched to this country, and we are satisfied that the suggestions made by various honourable Members are unfounded.

Mr. REMNANT: May honourable Members see a copy of the report which the right honourable gentleman has received from the British consul dealing with this question?

Mr. BURNS: In August, 1909, the consul-general at Hankow reported "that the animals exported were entirely different from the ordinary scavenger pigs, and were of a special breed and fed on rice in the valley of the Yang-tse River."

A Milk and Dairies Bill.

Mr. COURTHOPE asked leave under the "ten-minutes rule" to introduce a Bill to make better provision with respect to the sale of milk and the regulation of dairies. He said that he took this course as a sequel to the debate on the London County Council (General Powers) Bill, when the majority of the House supported his instruction to the Committee to delete from it the clauses dealing with the milk-supply. He had assured the President of the Local Government Board that if his Milk Bill of last session were reintroduced to deal in a general fashion with the milk-supply it might be treated as non-controversial. He hoped that the introduction of the Bill which he (Mr. Courthope) now brought forward would satisfy the right honourable gentleman that the members representing agricultural constituencies would not offer strenuous opposition to general milk legislation. The Bill which he now asked leave to introduce was a general Bill. It might be described briefly as the Bill of the right honourable gentleman of last year with the incorporation in it of the amendments recommended by the Chambers of Agriculture. It was supported by honourable Members in all parts of the House, including honourable Members who had seats also on the London County Council, the most exacting of all the local bodies in its demands in respect to the milk question. It was supported also by representatives of the County Councils' Association. He hoped when the Bill was examined by the President of the Local Government Board he would find that a very careful comparison was necessary to detect the difference between it and the Milk Bill of last year. He trusted that the right honourable gentleman would then agree with him that this Bill could be treated as non-controversial and that he would induce his colleagues on the Treasury Bench to give facilities for it, and to allow it at least to be sent to a Grand Committee. It was in the sincere belief that the Bill was in the interests, not only of the consumers but of the producers of milk, and that general legislation on sound lines, even though the restrictions were severe, should be passed, that he asked leave to bring in the Bill.

Leave having been given, the Bill was introduced and read a first time.

THURSDAY, APRIL 14TH.

Omagh District Asylum.

Captain CRAIG asked the Chief Secretary to the Lord Lieutenant of Ireland whether he was aware that in the Omagh District Asylum the attendants had to go on duty at 6 o'clock A.M. and remain until 8 o'clock at night, having to work 14 hours daily, in addition to which on two nights in the week they had to remain on duty until 10 o'clock P.M.; whether these officials had frequently made representations to the committee but without effect; whether the inspectors had the power to insist on reasonable hours of service in consequence of the grant from the Government; and whether he would take steps to see that the inspectors insist on more reasonable hours being worked by the attendants in that institution.—Mr. BIRRELL replied: I understand that the facts are practically as stated, save that the attendants' hours of duty are somewhat shorter in winter. The hours of duty in the Omagh Asylum are not, as I am informed, longer than in most other asylums. The power of prescribing the attendants' duties is vested by law in the committee of management, and the inspectors of lunatics cannot interfere save in extreme cases affecting the proper maintenance of the inmates of an asylum.

Medical Referees under the Workmen's Compensation Act.

Mr. GILL asked the Secretary of State for the Home Department whether it was in accordance with the regulations relating to medical referees under the Workmen's Compensation Act for a medical man who was in partnership with an official medical referee, to examine injured persons on behalf of an insurance company when such cases might be afterwards referred to his partner for final decision.—Mr. CHURCHILL answered: It would, as a general rule, be considered incompatible with the position of a referee for his partner to hold as part of the partnership an appointment for an insurance company in connexion with the workmen's compensation case. The Home Office has not objected to the partner of a referee holding such an appointment outside the partnership agreement, so that the referee has no interest in it; and to do so would, I am afraid, militate against the department getting the best men for the post of referee.

Pneumonokoniosis amongst Ganister Miners.

Mr. STEEL-MAITLAND asked the Secretary of State for the Home Department when the publication might be expected of the report of the Royal Commission on Mines dealing with the question of pneumonokoniosis among ganister miners.—Mr. CHURCHILL said in reply: I am not in a position to make any statement at present. The Royal Commission on Mines is being reconstituted to deal with metalliferous mines and quarries, and this matter will be referred to them. I hope that their inquiry will be completed without any delay.

Superannuation Allowances of Vaccination Officers.

Colonel RAWSON asked the President of the Local Government Board whether the superannuation allowances of vaccination officers were still based on the average salary received during the last five years; and whether, in view of the fact that the fees of vaccination officers were so greatly reduced by reason of the facility with which exemption from vaccination was now obtained, he would reconsider the matter, with a view of meeting the altered conditions.—Mr. BURNS (by written answer) replied: Under the provisions of the Poor-law Officers' Superannuation Act, 1896, the superannuation allowances are based on the average amount of salary and emoluments received during the five years immediately preceding the date of retirement. In the case of officers who have suffered loss for the reason mentioned I have been willing to sanction gratuities, and such gratuities would count as emoluments for the purpose of pension. In other cases the special circumstances have been met by allowing an addition of years under the provisions of Section 5 of the Act to an officer on retirement.

MONDAY, APRIL 18TH.

Asylum Officers' Superannuation.

Sir WILLIAM COLLINS asked the Secretary of State for the Home Department whether he could state approximately the number of asylum officers who would be entitled to assured pensions under the Asylum Officers' Superannuation Act, 1909; and whether he could say approximately what proportion of the total number of officers had been placed in Class I. and Class II. respectively by the visiting committees, as directed by Section 1 of the Act.—Mr. CHURCHILL wrote in reply: The Commissioners in Lunacy state that they have no recent information which would enable them to state approximately the number of asylum officers who will be entitled to assured pensions under the Asylum Officers' Superannuation Act, 1909. In 1906, however, they obtained a return which showed that for the past five years the average number of attendants and nurses employed in asylums was 10,100. The present number would probably be larger, several new asylums having been opened. The Commissioners cannot say what proportion of the total number of officers have been placed by the visiting committees in Class I. and Class II. respectively, as directed by Section 1 of the Act. It is not known whether all the visiting committees have yet come to a decision as to how the various officers in their employ shall be classified.

TUESDAY, APRIL 19TH.

Forcible Feeding.

Mr. HUGH LAW asked the Secretary of State for the Home Department whether his attention had been called to the recent death in Portsmouth Prison of John Pattle; whether this man's death was due, according to the coroner's verdict, to heart disease; whether he had been twice forcibly fed; and whether he had been medically examined before forcible feeding was authorised.—Mr. CHURCHILL replied: My attention had not been previously called to this case. On inquiry I find that the prisoner was committed on remand on a charge of attempting suicide—his second attempt. He appears to have been of unsound mind and could not be persuaded to take food. Food had therefore to

be administered by force. His heart was tested first, but artificial feeding was in this case the only alternative to allowing him to commit suicide. According to the medical evidence, death was due to heart disease and not in any way to forcible feeding, which probably prolonged his life. The coroner's jury expressed the opinion that he had received every consideration at the hands of the prison officials.

Mr. HUGH LAW further asked the right honourable gentleman whether his attention had been called to the inquiry held on March 8th by the Salford coroner into the death of Mary Pilsbury, in which a verdict of suicide was returned; whether the girl had just been released from prison; whether she had been forcibly fed whilst in prison; whether she left a note saying that this had been her first experience of this treatment and would be her last; and whether he proposed to take any steps with regard to the regulations for forcible feeding of prisoners.—Mr. CHURCHILL answered: My attention has not been called otherwise than by the honourable Member's question to the inquest held on Mary Pilsbury, but I find on inquiry that it was found necessary to administer food by force to this girl on three occasions when she was serving a sentence of one month's imprisonment last July, and on three occasions again during another term of imprisonment last November. She was received in prison again on Jan. 10th last and compulsion had to be used again for 13 days, but from Jan. 26th till her discharge on March 5th she took food naturally. She never made any threat of suicide while in prison, and I believe her suicide was due to circumstances quite unconnected with her imprisonment. The House is familiar with the arguments upon the general question of the forcible feeding of prisoners who refuse to take food voluntarily, and they do not appear to me to be affected in any way by this case.

Mr. LAW asked whether, in view of these two cases, the right honourable gentleman would be prepared to hold an inquiry into the whole question of forcible feeding.

Mr. CHURCHILL replied that that was a question of which he ought to have notice. If the honourable Member would put a question on the paper he would answer it. He could not at the moment hold out a hope that such an inquiry would be held.

BOOKS, ETC., RECEIVED.

AMERICAN MEDICO-PSYCHOLOGICAL ASSOCIATION (Secretary-Treasurer: Dr. C. W. PILGRIM, Poughkeepsie, N.Y.).

Proceedings of the American Medico-Psychological Association at the Sixty-fourth Annual Meeting held in Cincinnati, Ohio, May 12-15, 1908. Price not stated.

BALE (JOHN), SONS, AND DANIELSSON, LIMITED, London.

A Handbook of Practical Parasitology. By Dr. Max Braun and Dr. M. Lühe. Translated by Linda Forster. Price 10s. 6d. net.

BLACK, ADAM AND CHARLES, London.

The Social Calendar, 1910. Edited by Mrs. Hugh Adams and Edith A. Browne. Price 2s. 6d. net.

COLLINGRIDGE, W. H. AND L., London.

Tomatoes: and How to Grow Them. By R. F. Castle. Edited by T. W. Sanders, F.L.S., F.R.H.S. Price 1s. net.

ENGELMANN, WILHELM, Leipzig.

Therapeutisches Lexikon. Zusammengestellt von Dr. med. J. Hahn, Wien. Price, bound, M.12.

GLAISHER, HENRY J., London.

Mind and Health. By Edwin Ash, M.D. Lond. Price 2s. 6d. net.

GREEN, WILLIAM, AND SONS, Edinburgh and London.

Alcohol and Alpinism. Results of an Enquiry made among Alpinists. By Dr. L. Schnyder, Berne. Authorised Translation by Edward G. Richards. Price 2s. net.

HIRSCHWALD, AUGUST, Berlin.

Die funktionelle Herzdiagnostik. Von Dr. med. W. Janowski. Price M.4.

HODGETTS, LIMITED, London.

The Public Health Service Directory and Year-Book, 1910. Compiled by the Editor of "The Medical Officer." Price 6s. net.

HUTCHINSON AND CO., London.

Sleep and Sleeplessness. By Haydn Brown, L.R.C.P. & S. Edin. Price 2s. 6d. net.

IMPRIMERIE BOUCHY ET CIE., Paris. (A. MALOINE, Éditeur, Paris.)

Esquisses Cliniques de Physicothérapie. Traitement rationnel des Maladies chroniques. Par le Docteur J. A. Rivière. Price Fr.7.50.

KARGER, S., Berlin.

Klinische und anatomische Beiträge zur Lehre vom Uterusmyom. Von Dr. med. Anton Garkisch. (Aus der Deutschen Universitäts-Frauenklinik in Prag. Vorstand: Prof. Dr. Kleinhans.) Price M.5.

Die Bedeutung der Augenhygiene für den Staat, mit besonderer Berücksichtigung der Wehrfrage. Von Dr. med. Franz Heilborn. Price M.4.

Die Syphilis der Nase, des Halses und des Ohres. Von Dr. P. H. Gerber. Zweite veränderte und vermehrte Auflage. Price M.6.

Zur Kenntniss der orthotischen Albuminurie. Von Dr. Fritz Götzky. Price M.5.

MARHOLD, CARL, Halle a.S.

Klinik für psychische und nervöse Krankheiten. Herausgegeben von Robert Sommer, Dr. med. et phil. V. Band. 1 Heft. Price not stated.

PONSONBY, EDWARD, Dublin.

A Manual of Sanitary Law. Specially arranged for Candidates for Public Health Qualifications. By Robert P. McDonnell, D.P.H., F.R.C.S. Price 2s. 6d.

RABAGLIATI, A., Bradford. (BYLES, WILLIAM, AND SONS, LIMITED, Bradford.)

Conversations with Women regarding their Health and that of their Children. By A. Rabagliati, M.A., M.D., F.R.C.S. Edin. Price 5s. net.

THIEME, GEORG, Leipzig.

Die Procto-Sigmoscopie und ihre Bedeutung für die Diagnostik und Therapie der Krankheiten des Rektum und der Flexura sigmoidea. Von Professor Dr. H. Strauss, in Berlin. Price not stated.

UNIVERSITY OF LONDON, South Kensington.

The Libraries of London. A Guide for Students. By Reginald Arthur Rye. Second edition, enlarged. Price 2s. 6d. net; post free, 2s. 10d.

URBAN UND SCHWARZENBERG, Berlin und Wien.

Enzyklopädie der Mikroskopischen Technik. Herausgegeben von Prof. Dr. Paul Ehrlich, Dr. Rudolf Krause, Prof. Dr. Max Mosse, Prof. Dr. Heinrich Rosin, und weil. Prof. Dr. Karl Weigert. Zweite, vermehrte und verbesserte Auflage. I. Band: A-K. Preis M.25. Preis des kompletten Werkes in 2 Bänden broschiert, M.50; in 2 Originalhalbfranzbänden gebunden, M.55. (Band II. (L-Z) erscheint bis zum Sommer, 1910).

VIGOT FRÈRES, Paris.

La Photothérapie, ses Avantages dans le Traitement du Lupus Vulgaire. Par le Dr. Léon Friedmann. Price Fr. 3.

Traitement Manuel dans les Maladies de la Nutrition. Les Névralgies. Par le Dr. F. Wetterwald. Préface du Dr. H. Stapfer. Price Fr.3.

La Toxémie Neurasthénique. Les Neurasthénies sont des Intoxications. Par le Dr. Maurice Page. Préface du Dr. F. Heimo. Price Fr.3.50.

Consultations et Thérapeutique Dentaires. Par le Dr. J. Estéoule et L. Dauzier. Price Fr.4.

La Médecine à Bord. Par Franck Clair, Médécin Sanitaire maritime. Ouvrage couronné par l'Académie de Médecine (Prix Clarens). Price Fr.5.

Traité Pratique d'Electricité Médicale. Par le Docteur J. Larat. Troisième édition. Price Fr.10.

VOGEL, F. C. W., Leipzig.

Klinische Diagnostik und Propädeutik innerer Krankheiten. Von Dr. Adolf Schmidt und Dr. H. Lüthje. Price M.14.

WRIGHT, JOHN, AND SONS, LIMITED, Bristol. (SIMPKIN, MARSHALL, HAMILTON, KENT, AND CO., LIMITED, London.)

The Medical Annual, 1910. Price 8s. 6d. net.

YEAR-BOOK PRESS, London (c/o SWAN SONNENSCHEIN AND CO., LIMITED, London.)

The Schoolmaster's Year-Book and Directory, 1910. Price 7s. 6d net.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

BATLEY, A. B., L.R.C.P. Lond., M.R.C.S., has been appointed Bacteriologist in Joint Charge of the New Department for Therapeutic Inoculation at the Royal Boscombe and West Hants Hospital.

BROWNLOW, H. L., F.R.C.S. Eng., L.R.C.P. Lond., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Henley-on-Thames District of the county of Oxford.

CURTIS, GEORGE HERBERT, M.R.C.S., L.R.C.P. Lond., L.D.S. Eng., has been appointed Honorary Dental Surgeon to the Royal Hospital for Diseases of the Chest.

DAVIDSON, NORMAN G. W., L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed Assistant Medical Officer to the Rio Tinto Company, Rio Tinto, Spain.

EASON, A. M., L.R.C.P. & S. Edin., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Lytham District of the county of Lancaster.

FACEY, W. E., M.B. Camb., M.R.C.S., has been appointed Bacteriologist in Joint Charge of the New Department for Therapeutic Inoculation at the Royal Boscombe and West Hants Hospital.

GRIEVES, J. P., M.R.C.S. Eng., L.R.C.P. Lond., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Portishead District of the counties of Gloucester and Somerset.

GRIFFITH, WILLIAM, M.B., Ch.B. Vict., M.R.C.P. Lond., has been appointed Physician to St. John's Hospital for Diseases of the Skin, Leicester-square.

GRUNER, OSKAR C., M.D. Lond., has been appointed Pathologist to the Royal Victoria Hospital, Montreal, and Lecturer in Pathology of McGill University.

HEAVEN, JOHN COOKESLEY, L.R.C.P. Lond., M.R.C.S., L.S.A., D.P.H. Lond., has been appointed Medical Officer of Health to the Keynsham (Somerset) District Council.

HICKS, J. A. BRAXTON, M.B., B.S. Lond., has been appointed Assistant Pathologist and Curator of the Museum at Westminster Hospital.

HOWARD, A., M.B., B.S. Vict., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Chapel-en-le-Frith District of the county of Derby.

LEWIS, W. C., M.R.C.S., L.R.C.P. Lond., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Denbigh District of the county of Denbigh.

MOORE, S. P., M.B., Ch.B. Edin., has been appointed House Surgeon at the Torbay Hospital, Torquay.

PHILLIPS, HUBERT, M.R.C.S., L.S.A., has been appointed Clinical Assistant to the Chelsea Hospital for Women.

PLANCK, CHARLES, M.R.C.S., L.R.C.P. Lond., has been appointed Medical Superintendent to the Brighton County Borough Asylum, Haywards Heath.

RICHARDS, JOSEPH STEWART, M.D., B.S. Lond., has been appointed Honorary Medical Officer to the Croydon General Hospital.

SIBLEY, W. KNOWSLEY, M.D. Cantab., M.R.C.P. Lond., has been appointed Assistant Physician to St. John's Hospital for Diseases of the Skin, Leicester-square.

STEELE, RUSSELL, M.D. Durh., M.R.C.S., L.R.C.P. Lond., has been appointed Honorary Consulting Surgeon to the West Herts Hospital.

WELCH, T. A., L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Whaley Bridge District of the county of Chester.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BRIDGWATER HOSPITAL.—House Surgeon, unmarried, for six months. Salary at rate of £100 per annum, with board, lodging, and washing.

BRISTOL GENERAL HOSPITAL.—Casualty House Surgeon. Salary £60 per annum, with board, residence, &c.

BRISTOL ROYAL HOSPITAL FOR SICK CHILDREN AND WOMEN.—Senior Resident Officer. Salary £100 per annum, with rooms and attendance.

BURY INFIRMARY.—Senior House Surgeon. Salary £110 per annum, with board, residence, and laundry. Also Junior House Surgeon. Salary £80 per annum, with board, residence, and laundry.

BUXTON, DEVONSHIRE HOSPITAL.—Assistant House Surgeon for six months. Salary at rate of £70 per annum, with apartments, board, and laundry.

CANTERBURY, KENT AND CANTERBURY HOSPITAL.—House Surgeon, unmarried. Salary £80 per annum, with board, lodging, and washing.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn-road, W.C.—House Surgeon. Salary 40 guineas per annum.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—Clinical Assistant.

DENBIGH, DENBIGHSHIRE INFIRMARY.—House Surgeon. Salary £100, with board, residence, and washing.

DEPTFORD MEDICAL MISSION.—Locum Tenens Medical Superintendent.

DEVONPORT, ROYAL ALBERT HOSPITAL.—Assistant Resident Medical Officer, unmarried, for six months. Salary at rate of £50 a year, with board, apartments, and laundry.

DOUGLAS, NOBLE'S ISLE OF MAN GENERAL HOSPITAL AND DISPENSARY.—Resident House Surgeon, unmarried. Salary £90 per annum, with board and washing.

DRIFFIELD UNION.—Medical Officer and Public Vaccinator. Salary £21 per annum, with extra medical and vaccination fees.

ELHAM UNION.—Medical Officer. Salary £25 per annum, with vaccination fees about £35.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark Bridge-road, London, S.E.—House Surgeon for six months. Salary at rate of £60 per annum, with board, residence, and washing. Also Honorary Dental Surgeon.

GUILDFORD, ROYAL SURREY COUNTY HOSPITAL.—Assistant House Surgeon. Salary £50 per annum, with board, residence, and laundry.

HEMEL HEMPSTEAD, WEST HERTS HOSPITAL. — House Surgeon. Salary £100 per annum, with rooms, board, and washing.

HOSPITAL FOR EPILEPSY AND PARALYSIS AND OTHER DISEASES OF THE NERVOUS SYSTEM, Maida Vale, W.—Resident Medical Officer for six months. Salary at rate of £50 per annum, with board, lodging, and washing.

HULL, ROYAL INFIRMARY.—House Physician, unmarried. Salary £100 per annum, with board and apartments. Also Assistant House Surgeon. Salary £80 per annum, with board and lodging. Also Casualty House Surgeon. Salary at rate of £60 per annum, with board and lodging.

LEEDS GENERAL INFIRMARY.—House Physician and House Surgeon for six months. Also Ophthalmic House Surgeon. Salary £50 per annum. Board, washing, and lodging in each case.

LEICESTER INFIRMARY.—House Physician. Salary at rate of £100 per annum, with board, apartments, and washing. Also Assistant House Physician and Assistant House Surgeon. Salary at rate of £60 per annum, with board, apartments, and washing.

LONDON HOSPITAL, Whitechapel, E.—Assistant Surgeon.

MANCHESTER HOSPITAL FOR CONSUMPTION AND DISEASES OF THE THROAT AND CHEST.—Resident Medical Officer. Salary £100 per annum, with board, apartments, and washing.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, Chenies-street, W.C.—Pathologist. Salary £120 per annum, with rooms, coals, light, and attendance.

MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Hampstead and Northwood, Middlesex.—House Physician. Salary £75 per annum, with board and residence. Also Clinical Assistants for six months.

NEWCASTLE-ON-TYNE DISPENSARY.—Visiting Medical Assistant. Salary £160 per annum.

OLDHAM GENERAL INFIRMARY.—Senior House Surgeon. Salary £120 per annum. Also Second House Surgeon. Salary £100 per annum. Also Third House Surgeon. Salary £80 per annum. All for six months, with residence, board, and laundry.

PRESTON, LANCASHIRE EDUCATION COMMITTEE.—Two School Medical Inspectors. Salaries £250 per annum.

QUEEN CHARLOTTE'S LYING-IN HOSPITAL, Marylebone-road, N.W.—Assistant Resident Medical Officer for four months. Salary at rate of £50 per annum, with board, residence, and washing.

ROYAL NATIONAL ORTHOPÆDIC HOSPITAL.—Resident House Surgeon, unmarried, for six months. Salary £100 per annum, with board, residence, and washing.

ROYAL NAVAL MEDICAL SERVICE.—Examination for Fifteen Commissions.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL, King William-street, West Strand, W.C.—House Surgeon. Salary at rate of £50 per annum, with board, residence, and laundry.

RUTLAND COUNTY COUNCIL.—County Medical Officer of Health and County School Medical Officer. Combined salary £400 per annum.

ST. GEORGE'S INFIRMARY, Fulham-road, West Brompton, S.W.—Second Assistant Medical Officer. Salary £120 per annum, with board, residence, and washing.

ST. MARYLEBONE GENERAL DISPENSARY, 77, Welbeck-street, Cavendish-square, W.—Honorary Anæsthetist.

SHEFFIELD ROYAL HOSPITAL.—Assistant House Physician, unmarried. Salary £50 per annum, with board, lodging, and washing.

STOKE-ON-TRENT, NORTH STAFFORDSHIRE INFIRMARY AND EYE HOSPITAL, Hartshill.—Junior House Surgeon for six months. Salary at rate of £50 per annum, with board, apartments, and washing.

SWANSEA GENERAL AND EYE HOSPITAL.—House Physician. Salary £75, with board, washing, and attendance.

TAUNTON, TAUNTON AND SOMERSET HOSPITAL.—Resident Assistant House Surgeon for six months. Salary at rate of £50 per annum, with board, lodging, and laundry.

VENTNOR, ROYAL NATIONAL HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST.—Two Assistant Resident Medical Officers, unmarried. Salary £100 per annum each, with board and lodging. Also Holiday Locum Tenens for four months. Salary £3 3s. per week.

VICTORIA HOSPITAL FOR CHILDREN, Tite-street, Chelsea, S.W.—House Surgeon for six months. Salary £30, with board, lodging, and laundry.

WALTHAMSTOW, LEYTON, WALTHAMSTOW, AND WANSTEAD CHILDREN'S AND GENERAL HOSPITAL.—Resident House Surgeon. Salary £100 per annum, with board, rooms, and washing.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—House Surgeon. Salary at rate of £80 per annum, with board, rooms, and laundry.

YORK DISPENSARY.—Resident Medical Officer, unmarried. Salary £130 per annum, with board, lodging, and attendance.

THE Chief Inspector of Factories, Home Office, London, S.W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Act at Newport in the county of Mayo; and at Dungiven, in the county of Londonderry.

THE Secretary of State for the Home Department gives notice of a vacancy as Medical Referee under the Workmen's Compensation Act, 1906, for County Court Circuit No. 1, attached more particularly to Morpeth and Blyth, North Shields, Newcastle, Gateshead, Hexham and Bellingham County Courts.

Births, Marriages, and Deaths.

BIRTHS.

HARTIGAN.—On April 14th, at Gloucester-terrace, W., the wife of Thos. Hartigan, M.D., of a son.

MOON.—On April 16th, at Green-street, W., the wife of R. O. Moon, M.D., of a daughter.

PINCOTT.—On April 12th, at Culverden Grange, Tunbridge Wells, the wife of James C. Pincott, M.R.C.S. Eng., L.R.C.P., of a daughter.

SEALE.—On April 10th, at The Shrubbery, Farnborough, Kent, the wife of E. A. Seale, B.A., M.D., of a son.

MARRIAGES.

GLENNIE—HASTINGS.—On April 13th, at St. Andrew's Cathedral, Singapore, John Arthur Rinder Glennie, M.B., C.M., D.P.H., to Dora Mary, second daughter of Major-General F. E. Hastings, C.B., Indian Army.

RUTTER—AYERS.—On April 9th, at St. Leonard's, Streatham, William Stanley Rutter, L.D.S. Eng., to Evelyn Margery, second daughter of Mr. and Mrs. Mowbray Ayers, of Hopton-road, Streatham.

SEDGWICK—WYLIE.—On April 16th, at St. Saviour's Church, South Hampstead, George Henry Sedgwick, M.R.C.S., L.R.C.P., to Kathleen, younger daughter of James Hamilton Wylie, M.A., D. Litt.

STEVENSON—VERRAN.—On April 14th, at the Streatham Wesleyan Church, Claude Maberly Stevenson, M.B., B.C., to Dorothy Thirza, second daughter of Joseph Verran, of Streatham Hill, S.W.

DEATHS.

WINDSOR.—On April 13th, at Brownslow, Great Budworth, Cheshire, Thomas Windsor, M.R.C.S., L.S.A., in his 79th year.

N.B.*—*A fee of 5s. is charged for the Insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE NURSE, THE PRAM, AND THE ADENOID.

To the Editor of THE LANCET.

SIR,—I start by saying that the collocation of my title is only justified in theory, but I add that I believe in my own theory. A baby arrives—howling. This has nothing to do with this being a bad, bad world. He howls because, after months of crumpled comfort, his legs are pulled out straight for the first time. It may be a bad world; yet he feels hurt at being forced to go straight. But he must be strong enough to face worse things than physical rectitude; there is the 1910 domestic nurse. This female is none of your old-fashioned folk who cossets a taut little tummy with an ample hand; who brews the genial cinder tea; who gropes after truth by the aid of experimental diet, giving muscularity to the large intestine of the strong and colour to the marasmal certificate of the weak.

The plain and simple wage-earning nurse went out when her class got education and discovered the tired back; her successor is appreciating that the modern nursery is a soft job for a salaried attendant. So this nurse of to-day is a nurse of thermometers, costumes, patent foods, subscriptions to a professional organ, and economies of muscular effort. She is attractive, and baby's mother fancies the young woman in her elegant uniform, and notes her pronunciation and is glad that her baby will not start speech by talking of 'orses and 'ouses, nor will pat sand into a pail pronounced—"hæmorrhold."

When baby is a bit more grown up he will know the modern catch-phrase of "labour saving"; this principle produced perambulators, and conduced to their name being abbreviated into "pram." The primal "pram" was a three-wheeler, iron-tyred, with a chair seat arranged at such height as prevented the feet reaching the floor; a necessary strap kept the child on the shiny cushion. An airing in this weighty vehicle included a good jolting, with healthy fatigue perhaps; whilst the gritting wheels prepared the rider for the strenuous life. To its further credit, no mere babe could be laid down in this old pram. Consider the baby carriage of to-day—a light construction on its four rubber-tyred wheels and gentle springs, with mattress, monogramed quilts, fur rugs, hot water bottles, umbrella basket, hoods and wind-screens, Teddy bear, crest on the panels, and a china handle to which is attached the elegant nurse. Gains, clear gains, surely!

Does baby say so? Or is his fancy for a good thick arm to hold him and an expansive cushiony bosom to loll against, with tender involuntary massage as a result? So would his back acquire muscle, so would he learn to sit up and look his world in the face. Carried on the arm baby was sure of nurse's undistracted attention; a harmony of energy or fatigue embraced the two, temperature and telepathy were in accord between them; whilst among the chiefest boons to baby was the avoidance of that most pernicious of positions, the supine, which seems inseparable from the use of the modern baby-carriage.

Put an unclothed and unhampered infant on a suitable flat surface and observe the attitude naturally taken. The infant turns on one side, draws up the legs, and inclines the face downwards—in fact, lies curled up on his side.

Why is every infant in a baby-carriage lying on the back? Firstly, the body of the baby-carriage may be too narrow to permit the assumption of any other posture. Then the mattress is not really flat but concave and every movement of the carriage tends to lay the child out at the bottom of this saucer. And how is this baby clothed? In accordance with the posture he assumes. The mother or the nurse wants, probably both want, the pleasure of dressing the baby in smart clothes. These clothes have sleeves and armholes—armhole over armhole surrounds the tiny limb till the axilla is stuffed full of material; napkins and clothing fill the space between the thighs; then, once on his back, the baby is star-fished for good—an he would he could not roll off it. Baby is pretty—they all tell the mother so. And how, pray, is one to see this if the child lies curled up on his side? Such a pose is in contravention of nurse etiquette and a dead loss to the passing public.

And thus baby lies on his back, his limbs and abdomen passive, while mucus soaks the patch where his adenoid crop is being cultivated, and he is learning to breathe through his mouth. The pleasant rhythm of the easy carriage invites sleep: he sleeps now, perhaps he won't to-night.

I am, Sir, yours faithfully,

April 18th, 1910. CURMUDGEON.

SCHOOL TEACHERS AND THE PREVENTION OF THE SPREAD OF INFECTION.

IT is only by the coöperation of laymen that the full benefit of the public health laws can be obtained, and Dr. A. Mearns Fraser, the medical officer of health of Portsmouth, is to be congratulated on the production of a little pamphlet entitled "Notes on Infectious Diseases," which he has issued with the object of helping assistant teachers in the elementary schools to coöperate effectively with the health department in preventing the spread of infectious diseases. Both the notifiable and non-notifiable diseases are dealt with in a simple and practical manner, and only such points as are likely to prove of value in enabling teachers to act with promptitude and discretion are emphasised. If the information contained in this pamphlet is digested and promptly applied by school teachers and attendance officers there would be less danger of our elementary schools becoming centres for the spread of disease. The pamphlet is issued by the health department of Portsmouth.

EXPLOSIVE COUGH MIXTURE.

To the Editor of THE LANCET.

SIR,—I am glad that the little memorandum of mine which you published under the above heading in THE LANCET of Feb. 26th has attracted so much attention. I do not know, however, that we are much nearer to a solution of the cause *malgré* your own admirable article of March 26th, for it is now clear that explosions have occurred where no nitrous ether was contained in the mixture. I regret that I cannot myself throw any light on the subject. A well-informed military medical friend has a theory of his own which, as I believe he contemplates sending it to THE LANCET, I will not detail here. Almond emulsion makes a very nice menstruum, and it is to be regretted that so far its abandonment seems the most likely outcome of the correspondence. Such a course will be the more inconvenient, as there is no reason to assume that other vegetable menstrua might not contain among them some one equally suitable and equally explosive. Why do not some of the therapeutic committees investigate the whole subject thoroughly? I must say that practitioners are not entirely blameless in the matter, as we ought long since to have brought the fact under the notice of the medical public. At the same time, one is entitled to ask what were materia medica lecturers doing, and what, again, these therapeutic committees? My own experience is not as tragic a one as that of the eminent physician quoted by Dr. Ninian Falkiner. It lay on this last occasion more in the humorous direction, for the mixture was ordered for an important "pretender to physic," and the latter, I have reason to think, took it into his head that it was done for the deliberate purpose of making an end of him, and so getting rid of the rival near my throne. I am satisfied that my explanation to him might as well have been addressed to the winds.

I am, Sir, yours faithfully,

Cashel, April 13th, 1910. THOMAS LAFFAN.

To the Editor of THE LANCET.

SIR,—The decomposition that may take place in mistura amygdalæ is well known, though no satisfactory explanation has been given. It appears not to be simply a fermentative decomposition, as is shown by the fact that it occurs in the presence of a good proportion of spirit of chloroform.

The following combinations have frequently been found, in my own experience, to explode spontaneously, especially if a full bottle be stored in a warm place:—

(*a*) Sweet spirit of nitre, syrup of red poppy, almond mixture.

(*b*) Paraldehyde, almond mixture.

That paraldehyde and almond mixture form an explosive combination is noted in the British Pharmaceutical Codex (1907, p. 830).

I am, Sir, yours faithfully,

London, W., April 13th, 1910. F. W. GAMBLE.

THE WILTSHIRE COUNTY NURSING ASSOCIATION.

THE sixth annual meeting of the subscribers of the Wiltshire County Nursing Association was held at Marlborough College on April 14th under the presidency of the Marchioness of Lansdowne. The society has now 31 local nursing associations and has trained 50 women as village nurses who are now nursing in various parts of the county The society also has 50 affiliated associations, employing 85 nurses. The Marquis of Bath, in alluding to the administration of the Midwives Act, said he believed that work of that kind would be much better carried out by voluntary associations, such as the Wilts County Nursing Association, than by a Government department or an administrative body.

THE THERAPEUTICS OF OXALIC ACID.

To the Editor of THE LANCET.

SIR,—Your note on oxalic acid in food prompts me to state that I have used it with apparent success in sciatica. The dose given was one grain three times daily. The "British Pharmaceutical Codex" suggests that the dose is from a quarter to a half grain, but I have found that this can be exceeded with impunity.

Many observers believe that oxalic acid, or at least some of the oxalates, have a specific effect in inflammatory conditions of the gastric mucous membrane. Such has been my experience with oxalate of cerium, which I have used pretty extensively for the purpose.

It is stated that a lemonade of oxalic acid—five or six grains to the pint—is used in France as a febrifuge. I have not tried so daring a dose, but am inclined to think that so much might be taken with safety.

I am, Sir, yours faithfully,

J. C. MCWALTER, M.D. Brux., F.F.P.S. Glasg.

Dublin, April 18th, 1910.

WANTED—SUGGESTIONS FOR TREATMENT.

A CORRESPONDENT asks for suggestions in the treatment of an obstinate case of nocturnal enuresis of 18 months' duration. The patient, a girl, aged 18 years, with well-marked symptoms of Graves's disease, passes through the day a fairly normal amount of urine and has no frequency of micturition or incontinence, but during the night she passes three pints. She sleeps heavily and is awakened with great difficulty. All the usual remedies have been tried without any permanent success, though each new treatment is efficacious for a night or two. Recently she has had injections of pituitary gland, and while she is having them her trouble was relieved, but it returned when they were discontinued. Pituitary gland by the mouth was ineffective and thyroid gland met with only temporary success.

DAVIDSON'S THERMO-GENERATOR.

THE production of an electric current by heating dissimilar metals in contact has long been known and the instrument known as the thermopile invented by Nobili gave, on account of its great delicacy, a considerable impetus to the study of radiant heat. The principle of Davidson's thermo-generator is the same, but by paying careful attention to the metals which would give the greatest electric advantage, and by placing them in a position most favourably situated for the production of a current, an apparatus has been made which gives a very sensible amount of current. In appearance the thermo-generator is like a small gas furnace used in chemical laboratories for combustions. The dimensions of a convenient-sized generator, and one which will readily illuminate small 4-volt surgical lamps, are 15 × 7 × 4½ inches and it weighs 5½ pounds. A slightly larger one, with 3½ pounds added to its weight, has a greater capacity. The amount of gas consumed is very small, and when the current is generated, which is within a minute of lighting the gas, the flames can be reduced. Methylated spirit may be used instead of gas, so that the apparatus is available for surgical illumination or for charging accumulators for that purpose where there is no electric current. The apparatus is most ingenious and its action is very interesting to watch. A principle is obviously involved which some day may be turned to great practical purposes. Messrs. F. Davidson and Co. exhibit the apparatus at 29, Great Portland-street, London, W.

THE "MACNAIR" AUTOMATIC WATER STERILISER.

THE principle upon which this steriliser works is that of a syphon, the action of which is very important, since no water can be delivered through the syphon into the reservoir until sterilisation is secured. In fact, water cannot be raised from the boiler until an accumulation of steam pressure arises which then forces the sterilised water up the syphon into the reservoir. The steriliser consists, in short, of two cisterns fitted one on top of the other. The lower cistern is the boiler, which is practically steam-tight; the upper cistern is a locked reservoir. They are connected by a pipe, or, as we have called it, a syphon, up the centre. This is an ingenious, safe, and simple arrangement, and, moreover, the sterilised water which it produces is, relatively speaking, palatable, since the water is not over-boiled, and therefore contains a proportion of dissolved air. Messrs. Allen and Hanburys, of Wigmore-street, London, W., are the manufacturers.

WANTED—A HOME.

Medicus (34, Rectory-road, Stoke Newington, London) is anxious to find a home for a medical man—a neurasthenic subject—who requires good air and a healthy environment under which he would be capable of plenty of light work. The patient is anxious to regain his health, and can afford to pay £1 per week in addition to giving his services in any way that may be useful.

Experience.—We think our correspondent might consider the point which he has laid before us and raise the question in rather a broader manner. Everything that he has to say against the unfit female can, it seems to us, be urged with equal force against the unfit male. Certainly the childless marriage so regularly attributed to the female is very usually the fault or default of the male.

Enquirer.—We cannot follow in our correspondent's letter exactly what the pathological condition is, but if the medical man in charge of the case communicates with us we will try to help him in his difficulty. We have attempted to trace the treatment spoken of without success.

Zephyr will find the information he requires in "Diagnostic de la Méningite Cérébro-spinale à Méningocoques par la "Précipito-reaction,'" H. Vincent, Bulletin Académie de Médecine, 1909, 3 S., vol. lxi., pp. 326–332.

Inquirer (2) appears to us to have behaved in an absolutely proper manner. We are glad to note also that the patient reciprocated.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 20, Hanover-square, W.

MONDAY.

ODONTOLOGICAL SECTION (Hon. Secretaries—D. P. Gabell, E. B. Dowsett, J. Howard Mummery) at 15, Cavendish-square, W.: at 8 P.M.

Paper:
Mr. A. Hopewell Smith: Two Odontoceles and Some Other Cysts.

Casual Communications:
Mr. C. Schelling: (1) Two Cases of Suppuration in the Maxilla, and (2) a Case of Neuralgia due to Impacted Lower Wisdom Teeth, in all of which Skiagrams helped the Diagnosis.
Mr. Herbert Tilley: Two Cases of Suppurating Dental Cysts Invading the Antrum.
Mr. W. Rushton: A Case of Painful Attrition.

TUESDAY.

MEDICAL SECTION (Hon. Secretaries—A. M. Gossage, A. F. Voelcker) at 15, Cavendish-square, W.: at 5.30 P.M.

Paper:
Dr. J. E. Squire, C.B.: Hospital Infection of Tuberculosis, as Exemplified by the Records of the Resident Staff of the Mount Vernon Hospital for the Past 15 Years.

THURSDAY.

NEUROLOGICAL SECTION (Hon. Secretaries—E. Farquhar Buzzard, Wilfred Harris) at the National Hospital, Queen-square, W.C.: at 4.30 P.M.

Clinical Meeting.

MEDICAL SOCIETY OF LONDON, 11, Chandos-street, Cavendish-square, W.

MONDAY.—8.30 P.M., Mr. F. Eve: A Series of 20 Cases of Operation for Gastroptosis, with the Ultimate Results.—Dr. R. Hutchison: The Treatment of Gastroptosis.

HUNTERIAN SOCIETY, London Institution, Finsbury-circus, E.C.

WEDNESDAY.—8 P.M., Annual General Meeting. Election of Officers and Other Business. 8.30 P.M., Discussion on Vaccine Therapy (resumed by Dr. Horder and Dr. Dudgeon).

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. J. M. H. MacLeod: Clinique (Skin). 5.15 P.M., Lecture:—Dr. D. Ferrier: The Cerebral Circulation.
TUESDAY.—4 P.M., Dr. R. Hutchison: Clinique (Medical). 5.15 P.M., Lecture:—Dr. F. J. Smith: Ulcer of Stomach and Duodenum.
WEDNESDAY.—4 P.M., Mr. C. Ryall: Clinique (Surgical). 5.15 P.M., Lecture:—Mr. H. Fisher: Concomitant Strabismus.
THURSDAY.—4 P.M., Dr. F. Parkinson: Clinique (Medical). 5.15 P.M., Lecture:—Dr. A. Morison; Aneurysm of the Thoracic Aorta.
FRIDAY.—4 P.M., Mr. R. E. Bickerton: Clinique (Eye).

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—10 A.M., Lecture:—Surgical Registrar: Demonstration of Cases in Wards. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. 2.30 P.M., Mr. Dunn: Diseases of the Eye.
TUESDAY.—10 A.M., Dr. Moullin: Gynæcological Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Dr. Davis: Operations on the Throat, Nose, and Ear. 2.30 P.M., Dr. Abraham: Diseases of the Skin.
WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Mr. B. Harman: Diseases of the Eye. 2.30 P.M., Diseases of Women.
THURSDAY.—10 A.M., Lecture:—Surgical Registrar: Demonstration of Cases in Wards. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Mr. Dunn: Diseases of the Eye.
FRIDAY.—10 A.M., Dr. Moullin: Gynæcological Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Dr. Abraham: Diseases of the Skin.
SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Diseases of the Throat, Nose, and Ear. Mr. B. Harman: Diseases of the Eye. 2 P.M., Medical and Surgical Clinics. X Rays. Operations.

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

MONDAY.—2 P.M., Operations. 2.15 P.M., Mr. Turner: Surgery. 3.15 P.M., Sir Dyce Duckworth: Medicine. 4 P.M., Mr. R. Lake: Ear and Throat. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat. 2.15 P.M., Special Lecture:—Mr. W. Turner: Some Surgical Principles and their Application.
TUESDAY.—2 P.M., Operations. 2.15 P.M., Dr. R. Wells: Medicine. 3.15 P.M., Mr. R. Carling: Surgery. 4 P.M., Sir M. Morris: Diseases of the Skin. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin.
WEDNESDAY.—2 P.M., Operations. 2.15 P.M., Dr. F. Taylor: Medicine. 3.30 P.M., Mr. Cargill: Ophthalmology. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye.
THURSDAY.—2 P.M., Operations. 2.15 P.M., Dr. G. Rankin: Medicine. 3.15 P.M., Sir W. Bennett: Surgery. 4 P.M., Dr. Sale-Barker: Radiography. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat. 4 P.M., Special Lecture:—Dr. R. O. Moon: Epileptic Manifestations.

FRIDAY.—2 P.M., Operations. 2.15 P.M., Dr. R. Bradford: Medicine. 3.15 P.M., Mr. McGavin: Surgery. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin.
SATURDAY.—2 P.M., Operations. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.

WEDNESDAY.—4 P.M., Lecture:—Dr. Mackenzie: Asthma.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn-road, W.C.

TUESDAY AND FRIDAY.—3.45 P.M., Lecture:—Dr. A. Wylie: Larynx.

ROYAL INSTITUTION OF GREAT BRITAIN, Albemarle-street, Piccadilly, W.

TUESDAY.—3 P.M., Prof. F. W. Mott: The Mechanism of the Human Voice. (Lecture I.)

ROYAL SANITARY INSTITUTE, The Guildhall, Worcester.

FRIDAY.—7.30 P.M., Discussions on Teaching of Sanitary and Domestic Science in Schools (opened by Dr. G. N. Woollatt), and Building Bye-laws Reform (opened by Mr. W. Ransom).
SATURDAY.—Visits will be made to Messrs. Edward Webb and Sons' Horse Hair Factory; Messrs. Dent, Allcroft, and Co.'s Glove Manufactory; The Royal Porcelain Works; Messrs Thomas and Son's Pump Works; Cathedral and Deanery, proceeding by way of West End of Cathedral and ruins of Ancient Hospital to Cathedral Promenade, and to the Corporation Electricity works.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (25th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M.), St. Mark's (2.30 P.M.), Central London Throat and Ear (Minor 9 A.M., Major 2 P.M.),

TUESDAY (26th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M., Ophthalmic, 2 P.M.), Tottenham (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

WEDNESDAY (27th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.), West London (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

THURSDAY (28th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M.), Tottenham (Gynæcological, 2.30 P.M.), West London (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

FRIDAY (29th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

SATURDAY (30th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 A.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M.), West London (2.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITOR," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention should be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

TO SUBSCRIBERS.

WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, London, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

Subscribers, by sending their subscriptions direct to THE LANCET Offices, will insure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect.

THE COLONIAL AND FOREIGN EDITION (printed on thin paper) is published in time to catch the weekly Friday mails to all parts of the world.

The rates of subscriptions, post free from THE LANCET Offices, have been reduced, and are now as follows:—

FOR THE UNITED KINGDOM.		TO THE COLONIES AND ABROAD.	
One Year	£1 1 0	One Year	£1 5 0
Six Months	0 12 6	Six Months	0 14 0
Three Months	0 6 6	Three Months	0 7 0

(The rate for the United Kingdom will apply also to Medical Subordinates in India whose rate of pay, including allowances, is less than Rs.50 per month.)

Subscriptions (which may commence at any time) are payable in advance. Cheques and Post Office Orders (crossed "London County and Westminster Bank, Covent Garden Branch") should be made payable to the Manager, Mr. CHARLES GOOD, THE LANCET Offices, 423, Strand, London, W.C.

TO COLONIAL AND FOREIGN SUBSCRIBERS.

SUBSCRIBERS ABROAD ARE PARTICULARLY REQUESTED TO NOTE THE RATES OF SUBSCRIPTIONS GIVEN ABOVE.

The Manager will be pleased to forward copies direct from the Offices to places abroad at these rates, whatever be the weight of any of the copies so supplied.

SOLE AGENTS FOR AMERICA—Messrs. WILLIAM WOOD AND CO., 51, Fifth Avenue, New York, U.S.A.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, April 20th, 1910.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
April 14	29·25	W.	0·11	71	54	46	45	48	Cloudy
,, 15	29·28	S.W.	0·01	111	61	48	46	50	Cloudy
,, 16	29·42	E.	0·10	99	58	45	48	48	Cloudy
,, 17	29·75	W.	0·90	85	53	43	42	46	Overcast
,, 18	30·08	S.W.	...	64	57	42	45	48	Overcast
,, 19	30·06	W.	...	79	60	48	54	57	Cloudy
,, 20	30·24	W.	0·03	69	58	51	50	52	Overcast

Communications, Letters, &c., have been received from—

A.—Messrs. Allen and Hanburys, Lond.; Ardath Tobacco Co., Lond.; Aerators, Ltd., Lond.; Messrs. Armour and Co., Lond.; A. G.

B.—Messrs. Blundell and Rigby, Lond.; Dr. E. Burrows, Lond.; Dr. T. B. Broadway, Dorchester; Benger's Food, Manchester; Mr. C. A. G. Browne, Lond.; Messrs. Baillière, Tindall, and Cox, Lond.; The Bayer Co., Lond.; Messrs. Burroughs, Wellcome, and Co., Lond.; Dr. Saint René Bonnet, Chatel Guyon; Bristol General Hospital, Secretary of; Mr. J. Baker, Birmingham; Bury Infirmary, Secretary of; Mr. T. W. N. Barlow, Egremont; Dr. William Bruce, Dingwall; *British and Colonial Druggist*, Lond., Secretary of.

C.—Mr. F. W. Clarke, Chorlton-cum-Hardy; Coalexid, Lancaster, Secretary of; Sanitätsrat Dr. Eugen Cohn, Berlin; Mr. Basil Clarke, Manchester; Mr. A. Crowley, Croydon; Messrs. Christy and Co., Lond.; Dr. J. Cameron, Edinburgh; C. B.; Central London Throat, &c., Hospital, Secretary of; Chelsea Apprenticeship and Skilled Employment Association, Lond.; County Palatine of Lancaster, Director of Education of; County of Southampton, County Medical Officer of; Mr. E. Rock Carling, Lond.; Dr. Alberto Carloni, Bologna; Mr. Theodore A. Cook, Lond.; China Tea Association, Lond., Secretary of; City of London Hospital for Diseases of the Chest, Lond.

D.—Mr. W. A. Dawson, Preston; Driffield Union, Clerk to the; Messrs. F. Davidson and Co., Lond.; Devonshire Hospital, Buxton, Secretary of; Denbighshire Infirmary, Denbigh, Secretary of; Professor Sheridan Delépine, Manchester.

E.—Mr. W. Engelmann, Leipzig; E. M. S.

F.—Mrs. Emily Foxon, Walthamstow; Dr. D. Fenton, Blackburn; Messrs. W. J. Fraser and Co., Lond.

G.—Mr. J. H. Goring, Lond.; Mr. H. Tyrrell Gray, Lond.; Mr. H. Wippell Gadd, Exeter; Gt. Eastern Railway Co., Lond., Continental Traffic Manager of; Dr. G. F. S. Genge, Kenilworth; Dr. H. J. Gauvain, Alton.

H.—Dr. W. G. Harnett, Barnet; Dr. J. Henderson, Glasgow; Miss M. Howard, Watton; Hull Royal Infirmary, Secretary of; Mr. Gibbard Hughes, Lond.; H. S. N.

J.—Dr. A. H. James, Blaenavon; J. R. A.; J. D. M.

K.—Messrs. R. A. Knight and Co., Lond.; Messrs. Kutnow and Co., Lond.; Mr. E. Knight, Lond.

L.—Mr. H. K. Lewis, Lond.; Leyton, &c., Children's Hospital, Secretary of; Dr. G. S. Landon, Carshalton; Dr. A. P. Luff, Lond.; Messrs. Luzac and Co., Lond.; Mr. F. W. Pethick Lawrence, Lond.; Dr. H. A. Lediard, Carlisle.

M.—Mr. N. Meimarachi, Lond.; Dr. William Mair, Manchester; Dr. Kenneth W. Millican, St. Louis; Mr. R. Mosse, Berlin; *Medical Review of Reviews*, New York, Manager of; Dr. W. W. Moore, Wellington, New Zealand; Male Nurses' Association, Lond., Superintendent of; Major D. S. Marshall, I.M.S., Edinburgh; Mr. J. S. Mackintosh, Lond.; Dr. Brian Melland, Altrincham; Medical Defence Union, Lond., Secretary of; Manchester Hospital for Consumption, Secretary of; Maltine Manufacturing Co., Lond.; Captain J. P. Murphy, R.A.M.C., Carbis Bay; M. C.; Sir Henry Morris, Bart., Lond.; Dr. J. W. Scott Macfie, Chester.

N.—Mr. J. C. Needes, Lond.; Mr. H. Needes, Lond.; Captain V. B. Nesfield, I.M.S., Lond.; Captain F. H. Noke, R.A.M.C., Bath; North Staffs Infirmary, Stoke-on-Trent, Secretary of; Mr. J. T. New, jun., New York City; National Association for the Study and Education of Exceptional Children, Plainfield, New Jersey; National Hospital for Paralysed and Epileptic, Lond.

O.—Professor W. Osler, Oxford; Messrs. Osborne Peacock Co., Manchester; Oxford Medical Publications, Lond., Manager of.

P.—Messrs. Peacock and Hadley, Lond.; Mr. Stephen Paget, Lond.; Dr. T. Wilson Parry, Lond.

R.—The J. D. Riedel Co., Lond.; Messrs. W. J. Robson and Co., Lond.; Dr. A. Reid, Blackburn; R. V. C.; Registered Nurses' Society, Lond., Secretary of; Royal College of Surgeons in Ireland, Dublin, Registrar of; Reading Pathological Societies, Secretaries of; Royal Surrey County Hospital, Guildford Secretary of; Royal Southern Hospital, Liverpool, Superintendent of; Rev. Dr. Anderson Robertson, Lond.; Royal Meteorological Society, Lond.

S.—Scholastic, Clerical, &c., Association, Lond.; Mr. E. Staude, Berlin; Mrs. Agnes Savill, Lond.; Dr. R. A. Shaw, Blackburn; Messrs. G. Street and Co., Lond.; Mr. C. Smith, Christiania; Messrs. W. B. Saunders Co., Lond.; Messrs. Sherratt and Hughes, Manchester; Dr. E. Smith, Lond.; Messrs. Swan Sonnenschein and Co., Lond.; Swansea General Hospital, Secretary of; Smith's Advertising Agency, Lond.; Professor Dr. Schott, Bad-Nauheim; Mr. E. H. Sweet, Uckfield; Dr. T. Sanctuary, Great Driffield,

T.—Professor Peter Thompson, Birmingham; Taunton and Somerset Hospital, Secretary of.

U.—University of Liverpool, Registrar of.

V.—Mr. W. B. Vaile, Aldershot; Mr. C. Vernon, Lond.; Mr. N. H. P. Vickers, Grafgue.

W.—Mr. T. H. Wood, Manchester; Mr. J. J. Weaver, Southport; West London Medico-Chirurgical Society, Hon. Secretary of; Westminster Hospital Medical School, Lond., Secretary of; Messrs. M. and L. Witzek, Prague; W. L.; Wolverhampton General Hospital, Secretary of; Messrs. W. Wood and Co., New York; Messrs. G. Watson and Co., Edinburgh; Messrs. A. J. Wilson and Co., Lond.; Mr. S. H. Whitechurch, Harlton.

Y.—Messrs. R. Young and Co., Glasgow.

Letters, each with enclosure, are also acknowledged from—

A.—Mr. W. Allison, Liverpool; Dr. D. Aiken, Strabane; A. M.; Messrs. E. G. Allen and Son, Lond.; Dr. T. Dyke Acland, Lond.

B.—Mr. E. A. Brearley, Lond.; Dr. J. L. Bogle, Bordighera; Dr. E. Birt, Wakefield; Dr. J. S. Byrne, Lond.; Messrs. J. L. Bullock and Co., Lond.; Dr. G. B. Buchanan, Glasgow; Mr. H. Brice, Exeter; B. J. P. J.; Beckett Hospital, Barnsley, Hon. Secretary of; Dr. C. R. Box, Lond.

C.—Dr. T. G. Copestake, Buxton; Dr. A. G. R. Cameron, Worthing; Messrs. Crossley and Co., Lond.; Mr. H. Clements, Liverpool; Dr. J. C. Carr, Liverpool; Dr. S. G. Champion, Bournemouth; Dr. W. E. Cooke, Wigan.

D.—Messrs. Dawson and Sons, Lond.; Deptford Medical Mission, Lond., Treasurer to the; Miss Dawson, Bournemouth; Daimler Motor Co., Coventry; Denver Chemical Manufacturing Co., Lond.; Mr. D. J. Duhig, Hornchurch; Messrs. Dixons, Portsmouth; Devon and Cornwall Sanatorium, Didworthy, Treasurer to the.

E.—Messrs. Eason and Son, Dublin; Dr. W. Ewart, Lond.; E. M.

F.—Mr. A. Fleming, Lond.; Dr. S. Fraser, Lond.

G.—Mr. H. H. Gunnell, Caerleon; Mr. J. Gundelfinger, Lond.; Mr. M. Gunning, Middlesbrough; Mr. H. P. Gaston, Ockley; G. S.; Mr. H. Bellamy Gardner, Lond.; Ghyll Retreat, Cockermouth, Medical Superintendent of; Mr. B. B. Gough, Compton Martin; Mr. W. Grisewood, Liverpool.

H.—Dr. J. Hainsworth, Bradford; H. J. P.; Major C. H. Hopkins, R.A.M.C., Berkhamstead.

J.—Mr. Y. M. Jones-Humphreys, Cemmaes; J. M. T.; J. H.

K.—King's Norton Union, Clerk to the; Dr. J. Knott, Dublin.

L.—Messrs. Lee and Nightingale, Liverpool; Leeds General Infirmary, Manager of; *Leicester Daily Mercury*, Manager of; London Association of Nurses, Superintendent of.

M.—Dr. A. Morison, Lond.; M. B.; Mr. W. J. H. Macgilvray, Great Grimsby; Medicus, Darlington; M. D'A.; Messrs. Mentzendorff and Co., Lond.; Medicus, Wimbledon; Dr. G. G. Mecredy, Dalkey.

N.—Dr. P. C. Nandi, Calcutta.

P.—Dr. R. Parker, Liverpool; Dr. G. E. C. Pritchard, Lond.; Messrs. C. Pool and Co., Lond.; Portsmouth Guardians, Clerk to the; Messrs. Parke, Davis, and Co., Lond.

R.—Dr. H. E. Ridewood, Lond.; Mr. E. Rötger, Lond.; Royal Waterloo Hospital, Lond., Secretary of; Dr. H. Rhodes, Lond.; Dr. W. Russell, Edinburgh; Dr. W. Robertson, Tarporley; Mr. W. Ramsey, Melbourne; Royal National Orthopædic Hospital, Lond., Secretary of.

S.—Mr. A. Stenhouse, Glasgow; Dr. F. Shufflebotham, Newcastle-under-Lyme; Dr. S.; Seltzogene Patent Charges Co., St. Helen's; Dr. Mary Sturge, Edgbaston; Messrs. T. G. Scott and Son, Lond.; Surgeon, Ferndale; Messrs. Sen and Co., Delhi; Mr. J. Sampson, York; S. G. M.

T.—Dr. J. C. Thresh, Chelmsford; Torbay Hospital, Secretary of; Mr. J. B. R. Thomas, Ilkeston; Mr. J. Thin, Edinburgh; Dr. R. Thurnam, Blagdon.

V.—V. S.

W.—Dr. W. White, Cappoquin; Mr. C. Walker, Liverpool; W. H.; Miss M. Wheeler, Malvern; Mr. W. Whiteley, Lond.; W. P. T.

EVERY FRIDAY.

THE LANCET.

PRICE SIXPENCE.

SUBSCRIPTION, POST FREE.

FOR THE UNITED KINGDOM.*		TO THE COLONIES AND ABROAD.	
One Year	£1 1 0	One Year	£1 5 0
Six Months	0 12 6	Six Months	0 14 0
Three Months	0 6 6	Three Months	0 7 0

* *The same rate applies to Medical Subordinates in India.*

Subscriptions (which may commence at any time) are payable in advance.

ADVERTISING.

Books and Publications	Five Lines and under £0 4 0
Official and General Announcements	
Trade and Miscellaneous Advertisements and Situations Vacant ...	Every additional Line 0 0 6

Situations wanted: First 30 words, 2*s.* 6*d.*; per additional 8 words, 6*d.*
Quarter Page, £1 10*s.* Half a Page, £2 15*s.* An Entire Page, £5 5*s.*
Special Terms for Position Pages.

An original and novel feature of "THE LANCET General Advertiser" is a Special Index to Advertisements on pages 2 and 4, which not only affords a ready means of finding any notice but is in itself an *additional* advertisement.

Advertisements (to insure insertion the same week) should be delivered at the Office not later than Wednesday, accompanied by a remittance.

Answers are now received at this Office, by special arrangement, to advertisements appearing in THE LANCET.

The Manager cannot hold himself responsible for the return of testimonials, &c., sent to the Office in reply to advertisements; copies only should be forwarded.

Cheques and Post Office Orders (crossed "London County and Westminster Bank, Covent Garden Branch") should be made payable to the Manager, Mr. CHARLES GOOD, THE LANCET Office, 423, Strand, London, to whom all letters relating to Advertisements or Subscriptions should be addressed.

THE LANCET can be obtained at all Messrs. W. H. Smith and Son's and other Railway Bookstalls throughout the United Kingdom. Advertisements are also received by them and all other Advertising Agents.

Agent for the Advertisement Department in France—J. ASTIER, 35, Rue Franklin, Asnières, Paris.